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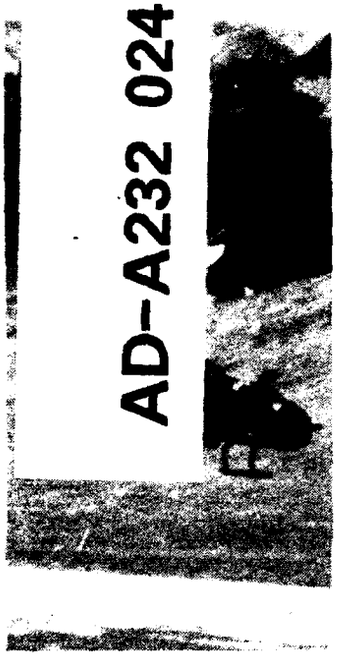
ANALYTICAL STUDY OF THE EFFECTS OF WEIGHT ON LIGHT HELICOPTER (LH) EXPOSURE TO GROUND-BASED WEAPONS

by

Charles D. Hahn, Ken G. Hall

Environmental Laboratory

DEPARTMENT OF THE ARMY
Waterways Experiment Station, Corps of Engineers
3909 Halls Ferry Road, Vicksburg, Mississippi 39180-6199



HELMS

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In support of the US Army Light Helicopter (LH) Program, the US Army Engineer Waterways Experiment Station (WES) was directed by the US Army Laboratory Command Survivability Management Office (SMO) to simulate typical LH missions using the WES Helicopter Mission Survivability (HELMS) Model and to determine the effect of increasing weight on aircraft exposure to ground-based weapons.

This report describes the HELMS model and the missions simulated as well as the terrain used for the simulations. Simulation data are presented as well as the results of the study.

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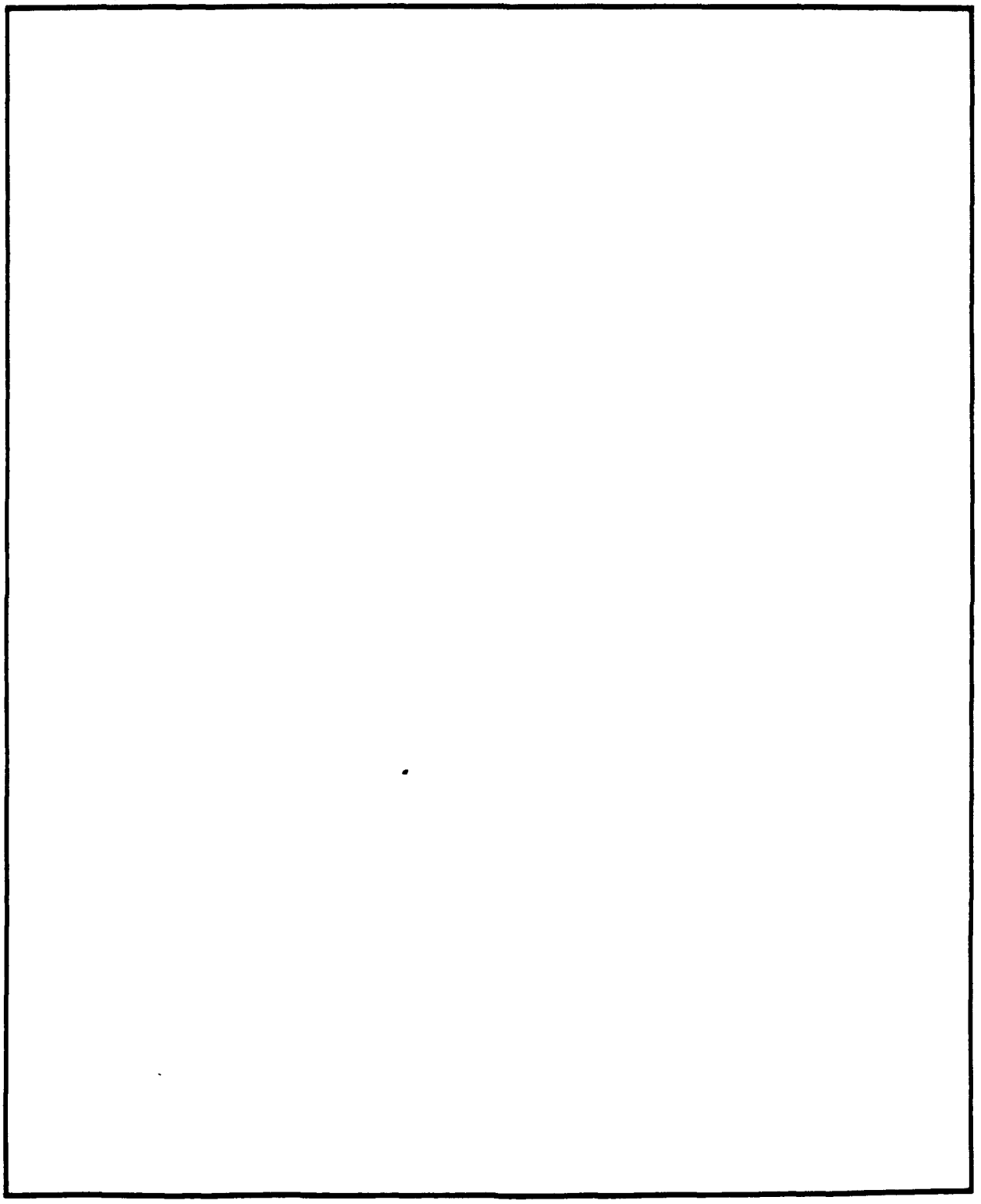

PREFACE

This study was conducted during the period August 1989 to April 1990 for the US Army Survivability Management Office (SMO), Adelphi, MD, and was accomplished by the US Army Engineer Waterways Experiment Station (WES), Environmental Laboratory (EL), Environmental Systems Division (ESD). Mr. Ken G. Hall provided technical direction for this study. Mr. Charles D. Hahn and Mr. Hall prepared this report. Mr. Don Roberts and Mr. Mike Claffy, SMO, were Technical Monitors for the study.

Mr. Harold W. West, Chief, Environmental Analysis Group (EAG), WES, exercised general supervisory control and provided guidance. Dr. Victor E. LaGarde was Chief, ESD, and Dr. John Harrison was Chief, EL.

COL Larry B. Fulton, EN, was Commander and Director of WES. Technical Director was Dr. Robert W. Whalin.

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CONTENTS

CONVERSION FACTORS, NON-SI TO SI (METRIC) UNITS OF MEASUREMENT

Non-SI units of measurement used in this report may be converted to SI (metric) units, as follows:

Multiply	By	To Obtain
degrees (angle)	0.01745329	radians
Fahrenheit degrees	5/9	Celsius degrees or kelvins*
feet	0.3048	meters
knots (international)	0.5144444	meters per second
pounds (mass)	0.4535924	kilograms

* To obtain Celsius (C) temperature readings from Fahrenheit (F) readings, use the following formula: $C = (5/9)(F - 32)$. To obtain kelvin (K) readings, use: $K = (5/9)(F - 32) + 273.15$.

ANALYTICAL STUDY OF THE EFFECTS OF WEIGHT ON LIGHT HELICOPTER (LH) EXPOSURE TO GROUND-BASED WEAPONS

PART I: INTRODUCTION

Background

1. The US Army is developing a new lightweight scout attack helicopter. The Light Helicopter (LH) Development Program is managed by the US Army Aviation Systems Command, St. Louis, MO, which has responsibility for the helicopter design and development. The LH is to replace the AH-1, OH-58, and OH-6 fleets and complement the existing AH-64 fleet. The LH is being designed against a performance requirement instead of a strict materials requirement.

2. The new LH has two primary roles and one secondary role. In its armed reconnaissance configuration (scout mode), its requirements are to acquire first/fire first, destroy high-value targets of opportunity, secure flanks and weak areas, reconnoiter and locate the enemy, select attack routes and positions, and provide surveillance and early warning. In the light attack configuration, it will acquire first/fire first, destroy enemy armor and mechanized forces, suppress and destroy enemy air defenses, disrupt or destroy second-echelon forces, provide rear area protection, and conduct joint air attack team operations (Nelms 1989).

3. The US Army Survivability Management Office (SMO), Headquarters, Laboratory Command, Adelphi, MD, is conducting an evaluation of the effects of weight on aircraft performance to determine the characteristics for increased aircraft combat survivability. In this study, it was assumed that as weight is added to the aircraft, its ability to perform tactical missions would be reduced. At some point, this reduction in performance will begin to affect aircraft survivability. The LH base weight used in this study was the minimum operating weight of 8,260 lb* which included fuel reserves, a crew of two, and other operating materials.

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* A table of factors for converting non-SI units of measurement to SI (metric) units is presented on page 3.

Approach

4. In support of the LH Development Program, SMO wanted to evaluate the effects of increasing the LH base weight by the addition of different survivability measures such as additional armor or radar-jamming devices. The US Army Engineer Waterways Experiment Station (WES) supported SMO by calculating the differential in exposure time for a number of aircraft weights, along eight different flight paths. To do this, a flight path was selected and the WES Helicopter Mission Survivability (HELMS) Model (Trott and Hildreth 1980a, 1980b; Trott 1982) was used to calculate exposure time for the different aircraft weights. This report briefly describes the HELMS model, the terrain database used (Aviation Scenarios), aircraft performance characteristics, weapon considerations, and the Phase 1 study relating to the effects of weight on aircraft exposure time, resulting from deployed ground-based threat weapons.

PART II: THE HELMS MODEL

5. HELMS is a computer model for evaluating aircraft performance and the effects of terrain shielding on helicopter flights from deployed ground-based weapons. It was developed in the early 1980s by Decilog, Inc., under contract to WES. The HELMS model was used by WES in 1983 in an airframe tradeoff analysis study for the US Army Aviation Center, Directorate of Combat Developments, Fort Rucker, AL (Bailey and Goodson 1984). HELMS has two primary components; it first simulates a three-dimensional (3-D) flight path over the terrain and then evaluates the generated helicopter flight path based on the location, types, and characteristics of ground-based weapons that are deployed within the 3-D terrain area. These two components are described in the following paragraphs.

6. HELMS determines a flight path based on previously determined way points, flight policies between way points, and important terrain and cultural features. The way points are selected based on features that could be easily seen from the air and the type of mission. Realistic flight policies are chosen based on the threat and terrain (topography and vegetation). Additional policies and way points are then used to ensure that the helicopter can "pop up" at the desired mission pop-up locations. The flight policies consist of floor and ceiling altitudes, maximum velocity, an angular search area so that the helicopter can fly around obstacles, and an angular search increment to search that area. The flight policies also include the maximum look-ahead distance and a midpoint distance. Flights are simulated between way points by picking a midpoint and planning a route to that midpoint. From each way point the aircraft then proceeds in the direction of the next way point by repeating the above procedure. In choosing a flight path, the aircraft has no knowledge of threat weapons locations and therefore simulates a flight path that is limited by the flight policies, way points, terrain and cultural features, and other considerations.

7. Once the flight path has been generated, HELMS then evaluates the exposure to ground-based threat weapons described later (see paragraph 8). Each point in the 3-D flight path is evaluated against each weapon. No defensive mechanisms are assumed for the helicopter, nor does it apply any evasive techniques along the flight path when encountering a firing weapon (Trott and Hildreth 1980a, 1980b). However, evasive maneuvers may be simulated by control of input conditions (way points). Only direct-fire weapons were

considered; however, work is under way to allow analysis of smart weapons effects, by adjusting the system dispersion and the probability of kill, given a hit (Pk).

8. HELMS determines the effects of direct-fire, ground-based threat weapons by first considering the terrain and determining where the weapon has a clear (unobstructed) line of sight to the helicopter within the 3-D terrain area. In a preprocessing stage, a determination is made concerning the minimum altitude at which an aircraft would be visible for each grid cell within the acquisition range of the weapon. This altitude is determined by considering the minimum elevation angle of the weapon and any topographic, vegetation, and cultural/urban features that may block the weapon's lines of sight. These features include terrain features such as mountains and valleys as well as vegetation heights and urban features such as buildings. A summary of the input characteristics for each weapon is given below:

Characteristic	Definition
Firing range	Maximum firing range for that weapon
Maximum elevation angle	Maximum angle the weapon can acquire targets above horizontal
Minimum elevation angle	Minimum angle the weapon can acquire targets measured from horizontal
Height above ground	Height of weapon target acquisition system
System standard deviation	Single term used to account for targeting errors (includes wind effects as well as tracking errors)
Kill probability	Probability of a target kill, given a hit
Number rounds/ short burst	Number of rounds fired in a short burst
Number rounds/ long burst	Number of rounds fired in a long burst
Acquisition time	Minimum time aircraft must be visible for the weapon to acquire the aircraft
Acquisition range	Maximum range that the weapon can acquire the aircraft

9. A ground-based weapon fires at the helicopter whenever the aircraft is within its firing range, has been continuously visible, and meets the requirements for acquisition time of the weapon. Each weapon is assumed to have unlimited ammunition and will fire at its cyclic rate until the helicopter is either out of view of the weapon or is beyond the effective range. If the helicopter is visible for less than the acquisition time of the weapon,

the acquisition time starts again when the helicopter again becomes visible. HELMS produces a weapon report which includes data on the location, type, and class for each weapon and a second-by-second analysis report depicting when the aircraft was visible to that weapon. Also included are data about whether the weapon was able to fire at the helicopter.

10. At each point along the flight path where the aircraft is fired upon, a survivability probability can be computed. This survivability probability is based on the product of all the firing decisions for that second of the flight and the system dispersion and P_k of each weapon that was able to fire at the helicopter. If the aircraft was not fired upon, the aircraft is said to have a 100-percent chance of survival. The survivability probability is related to ability of the aircraft to use the terrain to limit its exposure to the threat weapon. The survivability probability number provides insight on how to use terrain shielding to avoid exposure to ground-based direct fire weapons. The survival index is computed as follows:

$$P_s = 1.0 \times p_s(i) \tag{1}$$

where P_s = overall aircraft survivability at that XYZ point in space

$p_s(i)$ = aircraft survivability of each weapon (computed as follows):

$$p_s(i) = 1.0 - P_{hit}(i) \times P_k(i) \tag{2}$$

where $P_{hit}(i)$ = Gaussian probability of a hit, given the weapon's system dispersion

$P_k(i)$ = probability of a kill, given a hit

This survival index does not account for the cooperative effects between weapons nor for any countermeasures that a real helicopter may employ to avoid detection by ground-based weapons.

11. Survivability calculations were not generated during the Phase 1 study.

PART III: AIRCRAFT, TERRAIN, AND WEAPON SIMULATIONS

Type of Missions

12. Eight separate missions were selected to determine the effects of aircraft weight on exposure times. All were armed reconnaissance missions and were evaluated within an area along the eastern border region of West Germany (GE). The typical mission included several "pop-up" points where the aircraft was to stop, hover, and then pop up to view the terrain for general reconnaissance. The helicopter was then to drop down to the original altitude and continue the combat mission. These represent typical LH armed reconnaissance missions. No analysis of the pop-up locations was accomplished during the Phase 1 study; however, pop-up heights and times used were according to previous pop-up analysis (Knauf 1988). Each simulation run consisted of determining a flight path for each of the seven helicopter weights considered (see Appendix A) and then performing an analysis of the flight path against the deployed ground-based threat weapons.

Realistic Terrain Conditions

13. A Central European terrain area (Figure 1) was used in this study. This digital data set consisted of topographic elevation data (Figure 2) with a 50-m grid spacing as well as an associated vegetation and urban height data (Figure 3). The digital terrain data set represents a 35- by 95-km area in Central Europe in the Alsfeld region of West Germany and extending across the West German/East German border. This region has historically been considered as a major approach route to Central Europe for use by an opposing armor force (Knauff 1988).

14. This area (Figure 4) is known as the Fulda Gap due to the absence of rugged terrain, and is generally highly favorable for an armored attack (Knauff 1988). The terrain in this area is comprised of an undulating rolling topography with large sloping areas that are heavily forested (Hutto and West 1982). This region consists predominantly of an east-west line of hills and low mountains broken up south to north by a system of entrenched small streams and rivers with narrow floodplains (Doiron, Sabol, and Miller 1988). The topography varies from steep-sided hills and mountains to rolling plains and plateaus and narrow, relatively flat floodplains. The slopes on many of the

hills and mountains are steep (Figure 5) with rock outcrops and occasional fields of closely spaced stones and boulders (Doiron, Sabol, and Miller 1988). The combat scenario used for this study consisted of the helicopter flying armed reconnaissance missions against an opposing armored threat force located just north of Hunfeld, GE (see Figure 6). This area provided numerous river valleys and ridgelines for the helicopter to use in making an approach to important "pop-up" locations.

Flight Policies

15. The performance guidelines for the helicopter used during each leg of the flight mission are set by flight policies. A careful analysis of how the flight policies affected the flight path was conducted. The flight policies govern how high and how fast the helicopter flies and how far ahead it can plan its actual flight path. The flight policy for a particular leg is controlled by seven variables given below.

Variable	Name	Description
Look angle	IVEW	Maximum allowable deviation from straight path measured as total angle from left to right
Angle increment	INCVEW	Increment used when scanning left or right
Look-ahead distance	DISTLK	Maximum distance for planning flight path
Maximum distance to midpoint	RMAX	Maximum allowable distance to a midpoint
Floor	FLOOR	Minimum flight altitude above terrain features
Ceiling	CELING	Maximum flight altitude above terrain features
Maximum velocity	VMAX	Maximum airspeed on the leg

16. The flight parameters are controlled by the flight policy referred to the end way point of each leg. Also, a special flight policy was used when approaching "pop-up" locations. When the helicopter comes to a pop-up point, it must be traveling slow enough to come to a complete stop before "popping up." This means that the airspeed used in the flight policy at the way point must be quite small (5 knots or less). To prevent the helicopter crossing large terrain areas at this slow speed, an additional way point was used close

to the pop-up point to allow the helicopter to fly at a reasonable airspeed but still be able to stop at the pop-up point.

17. The HELMS model evaluates the effectiveness of terrain (topography and vegetation and urban feature) shielding to reduce exposure to opposing ground-based weapons. The factors that have the most effect on the mission profile are the maximum airspeed, look-ahead distance, and maximum distance to midpoints. The look-ahead distance and the midpoint distance variables control how far ahead the helicopter can plan (control) its flight path. The maximum airspeed determines whether the helicopter can make the maneuvers needed to maintain the flight envelope. As the look angle is decreased, the flight path tends to straighten out. This is considered reasonable since as the look angle decreases, the amount of deviation from the straight line is also reduced. The CELING and FLOOR altitude variables control only the size of the envelope, and unless the terrain height changes abruptly, the helicopter can usually fly within these limits.

18. Five flight policies were used initially in this study. Flight policy 1 was a relatively high-speed one (120 knots) staying clear of the vegetation canopy. This flight policy was used in rear areas. Flight policy 2 used a moderate speed (80 knots) and the helicopter flew at a lower altitude. This was used on the approaches and returns from the tactical areas of interest. Flight policy 3 was a medium speed (60 knots) and the helicopter flew close to the terrain. This was used to cover long distances between way points near the Forward Line of Troops (FLOT). Flight policy 4 kept the helicopter at a slow speed (20 knots) and flew it very near the terrain surface. It was used in the approaches to pop-up points. Flight policy 5 kept the helicopter very slow (5 knots) and flying with the skids just above the terrain. A sixth flight policy was added as flight policy 0. This was a very high-speed one (160 knots) and was used to evaluate the aircraft at its peak performance. A summary of the flight policies is shown below:

Policy No.	IVEW deg	INCVEW deg	DISTLK m	RMAX m	FLOOR m	CELING m	VMAX knots
0	120	10	5,000	800	0	10	160
1	120	10	5,000	800	0	10	120
2	100	5	2,500	300	0	10	80
3	90	5	2,000	300	0	5	60
4	80	5	1,200	300	0	3	20
5	60	3	800	300	0	1	5

Weapon Characteristics

19. The weapons used in this study represent a typical threat scenario in which the LH is being designed to operate. A total of 294 weapons were used and represent typical types and locations based on Soviet anti-air doctrine. The weapon data were provided by SMO and the weapons were grouped in selected range and performance classes. Each weapon was preprocessed before helicopter flight simulations were made to determine the visible areas of the terrain within the acquisition range of the weapon. Weapon data are summarized in Appendix A. The locations of the weapons are depicted in Figure 6.

Helicopter Characteristics

20. The helicopter weights used in this study were selected from a list of available performance data for typical operating weights of the LH. A weight of 8,260 lb is considered to be the minimum operating weight. A weight of 9,980 lb is considered the primary mission gross weight and 10,300 lb is the attack mission gross weight. The largest weight considered in the study was 10,860 lb and represents the maximum operating weight for the LH. In addition to these weights, three other weights were used (9,100, 10,140, and 10,580 lb). The performance data for the weights were developed by interpolating from the performance data supplied by the LH Program Management Office who obtained the data from the US Army Aviation Research and Technology Activity (ARTA), California. The aircraft performance data were used by HELMS to simulate the effect of weight and included the rate of climb, fuel flow, longitudinal acceleration, longitudinal deceleration, maximum turn rate, maximum turn radius, and descent rate. ARTA used a model developed in-house (Davis 1989) to calculate the maneuvering flight performance data based on the known engine and design parameters. The ARTA model predicts the performance of the aircraft using a nonlinear force and moment mathematical model of the aircraft (Davis 1989). The data used for this study were calculated using a "clean" helicopter (no external stores) and for 2,000 ft and 70° F (2K/70) atmospheric conditions. The ARTA helicopter performance data are included in Appendix B of this report.

Simulated Flight Paths

21. Eight flight paths were chosen initially for this study. The first represents an armed reconnaissance mission of the Hunfeld, GE, region (Figure 5) flown approximately 3-4 km from the FLOT. The second flight path was also an armed reconnaissance mission at a distance of approximately 6-8 km from the FLOT. The remaining flight paths represent armed reconnaissance missions to recon the FLOT area and then to proceed to another base station. These missions represent typical missions which the LH is expected to perform during actual combat operations. These missions are considered multi-mode unconstrained runs because the flight policy changed several times during the duration of the flight and HELMS was free to select the most appropriate flight path over the terrain.

Unconstrained flight path 1

22. Flight path 1 was an armed reconnaissance mission. This flight path was selected by aviators from both WES and SMO as a typical armed reconnaissance mission. The helicopter started from the 11th Air Cavalry Regiment airfield near Fulda, GE and then followed the Fulda River Valley north until it reached the village of Sandlofs. Then it turned east and flew to a pop-up point 1.5 km north of Grossenmoor (pop-up point A, 32UNB43001720). It then turned south to reach another pop-up location approximately 2 km east of Schlotzau (pop-up point B, 32UNB47301500). It then flew southeast to a third pop-up point approximately 0.5 km north of Rufolphsham (pop-up point C) and then east to a pop-up point in the city of Hunfeld (pop-up point D). From Hunfeld it proceeded southeast to a final pop-up point approximately 1 km north of Silges (pop-up point E). From there it turned south to Hofbieber and then returned to the 11th Air Cavalry Regiment airfield at Fulda. The length of the flight path was approximately 75.8 km. The direction of the flight is shown in Figure 7 (unconstrained flight 1). The model used 38 way points to determine the actual 3-D flight path and contained a total of five pop-up locations (Figure 7).

Unconstrained flight path 2

23. Flight path 2 was also an armed reconnaissance mission. It was in the same region as flight path 1 but did not come as close to the FLOT. The length of this flight path was 71.5 km and it contained 25 way points. This flight contained four "pop-up" locations (F, G, H, I) and in general the

flight direction was east to west along the FLOT as shown in Figure 8 (unconstrained flight 2).

Unconstrained flight paths 3-8

24. Six additional armed reconnaissance missions were selected in the region between Sandlofs and Hofbieber (Figures 9-14). These were one-way missions using the same five pop-up locations (A-E) used in flight path 1. Three sets of way points were chosen, varying the approach and return from each of the pop-up points, and each set of way points was evaluated going from east to west and west to east. These flight paths are shown in Figures 9-14 (unconstrained flights 3-8, one direction). These flight paths used either 19 (flight paths 4 and 5) or 23 way points (flight paths 1, 2, 3, and 6).

Unconstrained flight paths 9-13

25. A series of single-mode unconstrained flights were also simulated. These flight paths are called single-mode unconstrained runs because only one flight policy was used for the duration of the mission and HELMS was free to choose the flight path over the terrain area. Each of these flight paths had only two way points (starting and ending points). One of these way points was located at the village of Sandlofs, while the other was located at Hofbieber. The flight policy was varied for each series of runs. Flight policy 0 was added when it became evident that the aircraft was not reaching performance limits. These flight paths are shown in Figures 15-19 (single-mode unconstrained runs).

Constrained flight paths 14 and 15

26. Additional simulations were run using flight paths from previous runs. The way points for these flight paths were determined by using a one-way path with only a starting and ending way point and placing an additional waypoint at a point equal to 10 sec of flying time along that flight path. The first flight path used 36 way points to specify the flight path. The second flight path used 38 way points. This was done to control the flight path so that as many variables as possible could be evaluated. Each of these flight paths was flown using the four helicopter weights provided by ARTA and were run using a constant flight policy with the look angle set at 100 deg and the look increment set at 10 deg. The look-ahead distance was set at 5,000 m and the midpoint distance was set at 800 m. The ceiling was set to 10 m above the terrain and the floor was set equal to terrain height. The airspeed was varied between 60 and 160 knots. The first flight path is shown

in Figure 20 (constrained flight 1) and the second flight path is shown in Figure 21 (constrained flight 2).

Constrained flight paths 16a-16d

27. A third constrained flight path was used to simulate flights along and approximately parallel to the FLOT. This flight path is shown in Figure 22 (constrained flight 3). This flight path contained 51 way points (spaced approximately every 600 m) along the flight path.

Unconstrained flight paths 17a-17d

28. A fourth flight path was used to simulate the flight of the aircraft on a deep scout mission. This flight path was perpendicular to the FLOT and began at a point 0.5 km north of Hartershausen, GE (32UNB41801000). The aircraft then proceeded to a point approximately 11.3 km behind the FLOT, 3 km east of the city of Eiterfeld, GE (32UNB58482524), and then returned to the starting point. This flight path had three way points. This flight path is shown in Figure 23 (flight path across FLOT). Four different airspeeds (160, 120, 80, and 60 knots) were used in these simulations.

PART IV: SIMULATION RESULTS

29. The analysis of the data generated during the study was accomplished using a four-step process. The initial HELMS simulations were quite long and produced large quantities of model output data. Most of the flight path considered occurred in areas where the aircraft was not affected by the ground-based weapons. The second step consisted of a series of single-mode simulations with only beginning and ending way points to determine the effects of the different flight policies on aircraft exposure time. The third step consisted of a series of single-mode, constrained simulations whereby the aircraft flew the same controlled 3-D flight path. The fourth step in the analysis consisted of a mission deep across the FLOT so that regardless of the turn direction, the aircraft would have good exposure opportunities. Each of these steps is discussed below.

Multi-Mode Unconstrained Flight Path Analysis

30. The initial simulations consisted of realistic mission scenarios where the aircraft flew to specific areas and popped up at specific way points. The aircraft was also required to change airspeed and flight policy several times. Flight path 1 took between 45 min 58 sec and 46 min 28 sec to fly for the different aircraft weights. The minimum exposure time was 408 sec and the maximum exposure time was 444 sec. Flight path 2 resulted in flight times between 46 min 17 sec and 47 min 4 sec. The minimum exposure time for flight path 2 was 399 sec and the maximum exposure time was 461 sec. Table 1 lists the flight path, weight, flight time, flight length, and exposure time for each of the multi-mode unconstrained simulations.

31. A simple linear regression analysis was used to determine whether weight had any impact on exposure time. The analysis tested the hypothesis that weight had no effect on exposure time. This hypothesis is shown below:

$$DV = A \times WEIGHT + B \tag{3}$$

Where DV = dependent variable (flight time, flight length, or exposure time)

A = slope (or significance) of line

B = intercept

The results of that analysis are presented in Table 2. Slope number (A) is the slope coefficient and the probability number represents the significance of the slope coefficient. Data in Table 2 show the significance of weight on the indicated variable (flight time, flight length, and exposure time). The second number in each pair is the probability that weight does not affect that variable; the resulting number is due solely to random chance. When the probability number is less than 0.05, the slope is assumed to be significantly different than 0. When the probability number is greater than 0.05, the slope is believed to not be significantly different from 0. The intercept number (B) represents the value of the dependent variable at a weight equal to zero and was not used in the analysis.

Single-Mode Unconstrained Flight Path Analysis

32. A series of single-mode simulations were generated to analyze the effects of flight policy on exposure time. These simulations were made using the primary aircraft weights provided by LH PMO (8,260, 9,980, 10,300, and 10,860 lb) and flight policy was varied. At this point in the analysis, a new flight policy was used to examine the impact of aircraft performance on exposure time. These simulations showed flight times between 4 min 51 sec (160 knots) and 38 min 22 sec (20 knots) and exposure time varying from 8 sec (160 knots) to 12 min 10 sec (20 knots). The data produced by these simulations are summarized in Table 3.

33. The linear regression analysis tested the hypothesis that weight had no effect on exposure time, flight time, or flight length. The hypothesis is of the same form as the one shown in Equation 3. The results of that analysis are shown in Table 4. Only one exposure time value at one airspeed (120 knots) was considered significant. As shown in Figure 24, the aircraft were able to fly these routes and maintain the flight envelope without having to sacrifice airspeed. Only when the airspeed was increased, was the aircraft's performance reduced and then only for the heavier helicopters (Figure 25).

Constrained Flight Path Analysis

34. In the third step of the analysis, simulations were generated for a series of constrained flights using three different flight paths. These

flights were constrained by using way points spaced approximately 600 m apart along the flight path. The data resulting from these simulations are presented in Table 5.

35. The significance of these results are shown in Table 6. As shown above, weight does not have a significant effect on any of the variables tested. Each of these flight paths was over different terrain and so it appears that weight is significant only when the combination of airspeed and terrain cause the aircraft to perform at the limits of its performance capabilities. As seen in Figures 26-29, for the third flight path, the aircraft only reached its performance limits at the higher airspeeds (120 and 160 knots). At the lower airspeeds, the aircraft was easily able to perform all the required maneuvers. Figure 26 (constrained run turn rate) shows that all of the aircraft simulated were able to turn effectively, but at the higher airspeeds, the aircraft had to accelerate to make the turns. Figure 27 (constrained run descent rate) shows the opposite trend, but as the aircraft's speed increases, the aircraft was able to descend faster. Figure 28 (constrained run acceleration) shows that at the higher airspeeds, the aircraft had to accelerate to maintain airspeed. In Figure 28 it is noteworthy that the aircraft had to accelerate much more often during the flight. Figure 29 (constrained run/climb rate) shows very clearly the effects of weight on aircraft performance. At a speed of 160 knots, all aircraft had to climb at a rate near maximum.

Flight Across FLOT

36. The fourth step was a flight deep across the FLOT. This series of simulations was used to eliminate any bias in choosing the 3-D flight path in respect to the deployed ground-based weapons. The flight paths generated during this step of the analysis were approximately 52 km in length. The data produced by these runs are shown in Table 7.

37. The results of the linear regression analysis are tabulated in Table 8. As shown above, weight had no significant effect on any of the variables tested. As shown in Figures 30-33, the aircraft were generally able to fly the route without being limited by performance. Figure 30 shows the aircraft turn rate used for the simulations. Only at a speed of 160 knots do the aircraft start to reach their performance limits. Figure 31 shows that the aircraft did have to descend at near their maximum rates, but this occurred

less than 0.2 percent of the time during the flight. At all other times, the aircraft were not required to descend. Figure 32 shows that at the lower airspeeds and on some of the flight paths, the aircraft were capable of flying the route without having to slow down to perform a maneuver. At 80 knots, all of the aircraft were able to fly the routes without having to reduce airspeed. Figure 33 shows that the aircraft did have to climb at a rate near the maximum during the flight, but in only one case (120 knots, 10,860 lb) did the aircraft have to climb at their maximum rate.

PART V: SUMMARY AND RECOMMENDATIONS

Summary

38. The results of this analytical study indicate that weight had no significant effect on aircraft performance at the four weights tested and thus, no attributable impact on exposure time from ground-based weapons simulated in the scenario. However, the weights used in the study did not exceed the design limits of the aircraft. In other words, the four weights evaluated did not cause aircraft performance to be degraded sufficiently to impact on exposure time.

Recommendations

39. It is recommended that additional simulations be made using the performance data for the new weights. It is also recommended to obtain data above the maximum operating gross weight to determine the "knee" of the curve where weight begins to affect LH aircraft performance.

40. It is also recommended that additional simulations be made where the helicopter is flown against a single ground-based threat weapon. At the point where the helicopter receives fire from that weapon, a series of new way points would be used to generate evasive maneuvers that a pilot would use when in the same situation. These evasive maneuvers will affect aircraft performance and thus impact exposure time and aircraft survivability. This will be based on several weights, several different weapons, and several different geographical locations.

41. WES plans to modify HELMS to include some knowledge of threat locations for use in the Path Generation module. This will allow better choices for avoiding an obstacle by detouring away from the ground-based threat weapons. The Path Evaluation module will be revised to extract hit/kill probabilities for each weapon. This data will then be used to better analyze the effects of weight on aircraft survivability. The survivability calculation, as it currently stands, is not considered useful in determining small changes in aircraft survivability. By examining aircraft survivability on a single-weapon basis, a better determination can be made of the effect of increasing weight on aircraft survivability. These data may also be useful in determining the primary threat to the aircraft so that the most effective

defensive measures may be incorporated into the overall design of the aircraft.

42. It is also recommended that an analysis of pop-up locations be conducted to determine the suitability for ground target acquisition. The "pop-up" points used in the initial part of this study were chosen as special areas of interest. However, the actual location chosen may not allow the best visibility of ground targets by the aircraft. This analysis will allow generation of more realistic survivability data.

43. It is recommended that other geographical areas be used for aircraft performance and survivability studies. Other high-resolution terrain/environmental data are available and should be valuable for a comprehensive analysis of LH aircraft survivability.

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Table 1

Simulation Results from Multi-Mode Unconstrained Flights

Flight Path	Weight lb	Flight Time sec	Flight Length km	Exposure Time sec
1	8,260	2,755	75.21	408
1	9,100	2,758	74.00	432
1	9,980	2,758	73.29	435
1	10,140	2,785	75.49	426
1	10,300	2,801	77.46	433
1	10,580	2,775	75.57	426
1	10,860	2,787	75.83	444
2	8,260	2,777	71.20	450
2	9,100	3,179	71.36	452
2	9,980	2,788	71.15	399
2	10,140	2,809	71.64	440
2	10,300	2,806	71.99	461
2	10,580	3,446	72.17	451
2	10,860	2,824	71.86	453
3	8,260	1,562	36.48	355
3	9,100	2,237	36.53	429
3	9,980	1,553	36.17	356
3	10,140	1,570	36.48	369
3	10,300	1,566	35.85	373
3	10,580	1,561	36.33	376
3	10,860	1,541	35.88	371
4	8,260	1,594	38.04	519
4	9,100	2,191	39.17	471
4	9,980	1,603	38.33	489
4	10,140	1,618	38.26	492
4	10,300	1,621	38.32	496
4	10,580	1,630	38.33	539
4	10,860	1,627	38.48	499
5	8,260	1,428	32.37	383
5	9,100	1,464	33.10	418
5	9,980	1,451	32.02	354
5	10,140	1,429	31.97	354
5	10,300	1,428	31.99	375
5	10,580	1,472	32.02	386
5	10,860	1,525	32.62	336
6	8,260	1,632	32.32	515
6	9,100	1,617	32.77	545

(Continued)

Table 1 (Concluded)

Flight Path	Weight lb	Flight Time sec	Flight Length km	Exposure Time sec
6	9,980	1,586	32.26	508
6	10,140	1,616	32.31	550
6	10,300	1,593	32.02	514
6	10,580	1,632	32.52	511
6	10,860	1,395	32.65	367
7	8,260	1,861	37.98	623
7	9,100	1,896	37.61	610
7	9,980	1,877	38.26	617
7	10,140	1,928	38.04	596
7	10,300	1,871	37.90	600
7	10,580	1,845	38.06	595
7	10,860	1,859	37.82	580
8	8,260	1,837	35.43	429
8	9,100	1,800	35.32	426
8	9,980	1,788	35.78	443
8	10,140	1,883	36.04	451
8	10,300	1,862	35.92	453
8	10,580	1,784	35.54	455
8	10,860	1,784	35.54	455

Table 2

Sensitivity of Dependent Variable to Weight

Flight Path	Flight Time		Flight Length		Exposure Time	
	Slope	Probability	Slope	Probability	Slope	Probability
1	0.014036	0.0699	0.00532	0.4278	0.009272*	0.0498
2	0.04294	0.7499	0.000327	0.0563	-0.000126	0.9906
3	-0.111521	0.3813	-0.000205	0.1146	-0.003499	0.7857
4	-0.80188	0.4644	$-1.3392X10^{-5}$	0.9422	0.002685	0.8137
5	0.019976	0.2358	-0.000175	0.4152	-0.1710	0.1780
6	-0.049157	0.2212	$-5.556X10^{-6}$	0.9655	-0.032906	0.2709
7	-0.003683	0.7967	$4.0397X10^{-5}$	0.7014	-0.13710*	0.0164
8	-0.008423	0.6884	0.000133	0.3059	0.12617*	0.0029

* Significant at 0.05 probability limit.

Table 3

Simulation Results From Single-Mode Unconstrained Flights

Run Num	Airspeed knots	Weight lb	Flight Time sec	Flight Length km	Exposure Time sec
2051	160	8,260	291	23.92	39
2053	160	9,980	305	24.54	8
2055	160	10,300	293	23.67	25
2057	160	10,860	296	23.73	80
2011	120	8,260	379	23.43	34
2013	120	9,980	373	23.04	139
2015	120	10,300	352	21.74	146
2017	120	10,860	359	22.20	145
2021	80	8,260	549	22.68	222
2023	80	9,980	569	23.51	202
2025	80	10,300	572	23.60	45
2027	80	10,860	596	24.60	173
2031	60	8,260	809	25.15	89
2033	60	9,980	807	25.16	115
2035	60	10,300	772	24.06	213
2037	60	10,860	759	24.59	120
2041	20	8,260	2,148	24.25	729
2043	20	9,980	2,279	25.66	730
2045	20	10,300	2,191	24.66	699
2047	20	10,860	2,302	25.87	676

Table 4

Sensitivity of Dependent Variable to Weight

Airspeed knots	Flight Time		Flight Length		Exposure Time	
	Slope	Probability	Slope	Probability	Slope	Probability
160	0.002062	0.6263	-5.9401×10^{-5}	0.8327	0.008249	0.6992
120	-0.008793	0.2066	-0.000545	0.2075	0.046757*	0.0430
80	0.016037	0.0670	0.000653	0.0689	-0.34967	0.5076
60	-0.017892	0.2017	-0.000208	0.4033	0.24018	0.5037
20	0.050940	0.2141	0.000532	0.2352	-0.17757	0.2348

* Significant at 0.05 probability limit.

Table 5

Simulation Results From Constrained Flights

Airspeed knots	Run Number	Weight lb	Flight Time sec	Flight Length km	Exposure Time sec
			Flight 1		
160	2,121	8,260	267	21.54	113
160	2,123	9,980	268	21.55	115
160	2,125	10,300	282	21.93	119
160	2,127	10,860	279	21.98	120
120	2,111	8,260	350	21.58	145
120	2,113	9,980	351	21.62	135
120	2,115	10,300	352	21.66	145
120	2,117	10,860	351	21.60	139
80	2,131	8,260	523	21.60	219
80	2,133	9,980	523	21.57	216
80	2,135	10,300	524	21.62	216
80	2,137	10,860	524	21.62	215
60	2,141	8,260	697	21.68	289
60	2,143	9,980	696	21.65	282
60	2,145	10,300	696	21.65	282
60	2,147	10,860	696	21.63	282
			Flight 2		
160	2,201	8,260	287	22.95	28
160	2,203	9,980	298	22.94	29
160	2,205	10,300	294	22.93	32
160	2,207	10,860	297	22.93	33
120	2,071	8,260	369	22.74	45
120	2,073	9,980	372	22.86	41
120	2,075	10,300	371	22.80	38
120	2,077	10,860	373	22.83	39
80	2,211	8,260	551	22.74	61
80	2,213	9,980	551	22.74	65
80	2,215	10,300	552	22.76	67
80	2,217	10,860	552	22.77	75
60	2,221	8,260	733	22.80	72
60	2,223	9,980	733	22.81	83
60	2,225	10,300	733	22.77	85
60	2,227	10,860	735	22.81	77

(Continued)

Table 5 (Concluded)

Airspeed knots	Run Number	Weight lb	Flight Time sec	Flight Length km	Exposure Time sec
			Flight 3		
160	2,321	8,260	414	31.64	215
160	2,323	9,980	445	32.39	240
160	2,325	10,300	443	32.28	239
160	2,327	10,860	464	32.78	249
120	2,311	8,260	496	30.41	246
120	2,313	9,980	518	31.45	268
120	2,315	10,300	518	31.40	275
120	2,317	10,860	524	31.52	273
80	2,331	8,260	733	30.25	369
80	2,333	9,980	734	30.27	369
80	2,335	10,300	736	30.33	372
80	2,337	10,860	739	30.46	374
60	2,341	8,260	973	30.31	471
60	2,343	9,980	975	30.35	488
60	2,345	10,300	974	30.32	493
60	2,374	10,860	974	30.33	479

Table 6

Simulation Results From Flights Across FLOT

Airspeed knots	Flight Time Slope	Flight Time Probability	Flight Length Slope	Flight Length Probability	Exposure Time Slope	Exposure Time Probability
			Constrained Flight 1 Airspeed			
160	0.005043	0.2579	0.00165	0.2224	0.002662	0.0971
120	0.000541	0.2568	1.6297×10^{-5}	0.4653	-0.001953	0.5531
80	0.000388	0.2478	6.1750×10^{-6}	0.6815	-0.001543*	0.0074
60	-0.000422	0.0541	-1.8022×10^{-5}*	0.0203	-0.002954	0.541
			Constrained Flight 2 Airspeed			
160	0.003896	0.1208	-8.0950×10^{-6}	0.0525	0.001853	0.1278
120	0.001415	0.0717	3.5434×10^{-5}	0.2250	-0.002583	0.0651
80	0.000388	0.2478	1.0431×10^{-5}	0.2207	0.004608	0.1230
60	0.000536	0.3992	-5.57×10^{-7}	0.9670	0.003273	0.3793
			Constrained Flight 3 Airspeed			
160	0.017937*	0.0257	0.000408*	0.0337	0.12844*	0.0105
120	0.010893*	0.0099	0.000452*	0.0370	0.011461*	0.0364
80	0.002001	0.1523	6.6541×10^{-5}	0.2121	0.001699	0.2228
60	0.000457	0.3734	7.936×10^{-6}	0.4792	0.005359	0.3836

* Significant at 0.05 probability limit.

Table 7

Simulation Results From Flights Across FLOT

Run Num	Airspeed knots	Weight lb	Flight Time sec	Flight Length km	Exposure Time sec
2421	160	8,260	634	51.69	228
2423	160	9,980	687	55.65	177
2425	160	10,300	665	54.04	152
2426	160	10,860	683	54.64	174
2411	120	8,260	857	53.05	296
2413	120	9,980	872	53.92	279
2415	120	10,300	837	51.77	277
2417	120	10,860	840	51.94	286
2431	80	8,260	1,199	49.62	418
2433	80	9,980	1,288	53.26	427
2435	80	10,300	1,228	50.84	411
2437	80	10,860	1,264	52.34	429
2441	60	8,260	1,696	52.82	464
2443	60	9,980	1,677	52.17	458
2445	60	10,300	1,668	51.82	433
2447	60	10,860	1,717	53.44	455

Table 8

Sensitivity of Dependant Variable to Weight

Airspeed knots	Flight Time Slope	Flight Time Prob.	Flight Length Slope	Flight Length Prob.	Exposure Time Slope	Exposure Time Prob.
160	0.018667	0.1335	0.001250	0.1883	-0.025313	0.1179
120	-0.006325	0.5958	-0.000420	0.5327	-0.005537	0.2271
80	0.023960	0.3154	0.001000	0.3034	0.002423	0.6744
60	0.001630	0.9160	0.000024339	0.9620	0.006322	0.4763

* Significant at 0.05 probability limit.

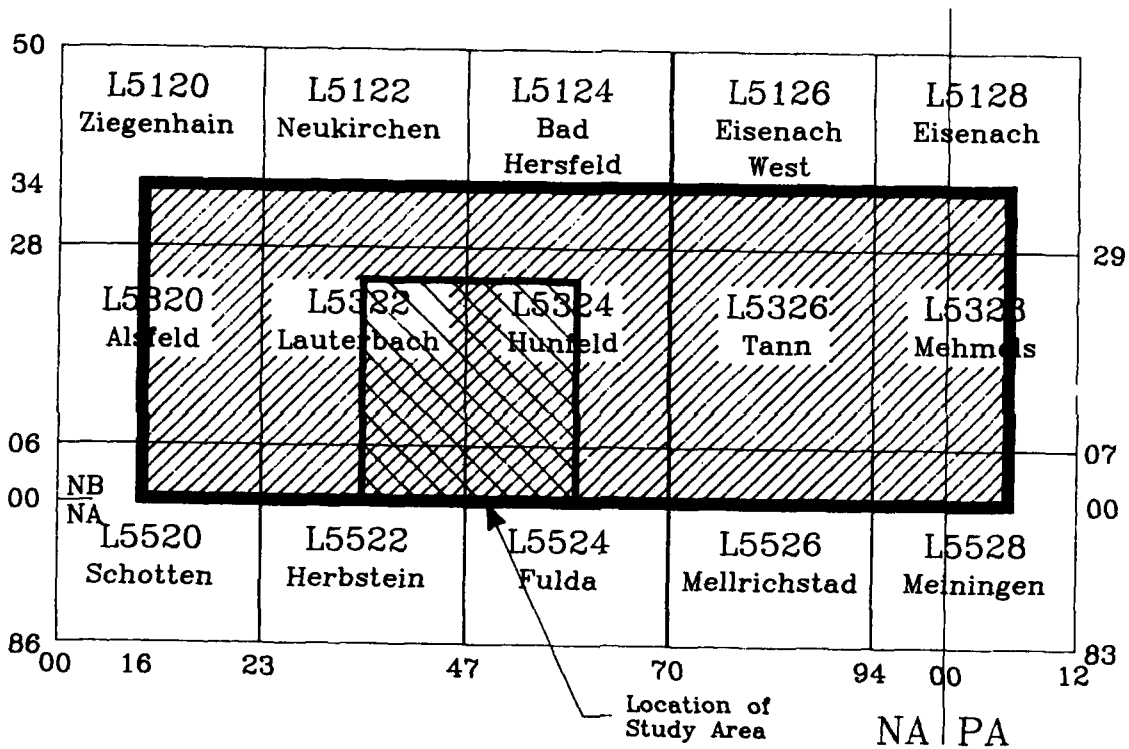


Figure 1. Location of HELMS database and study area (1:50,000 quad sheets)

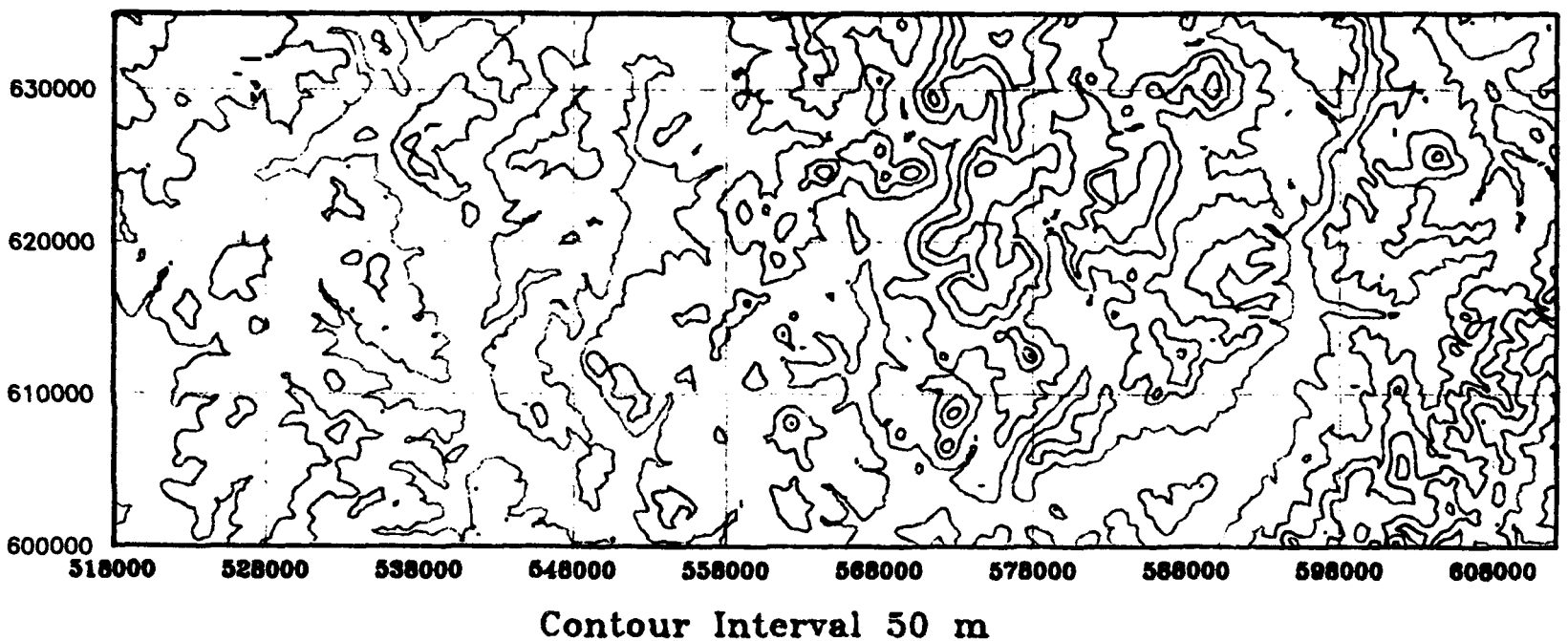


Figure 2. HELMS topography data

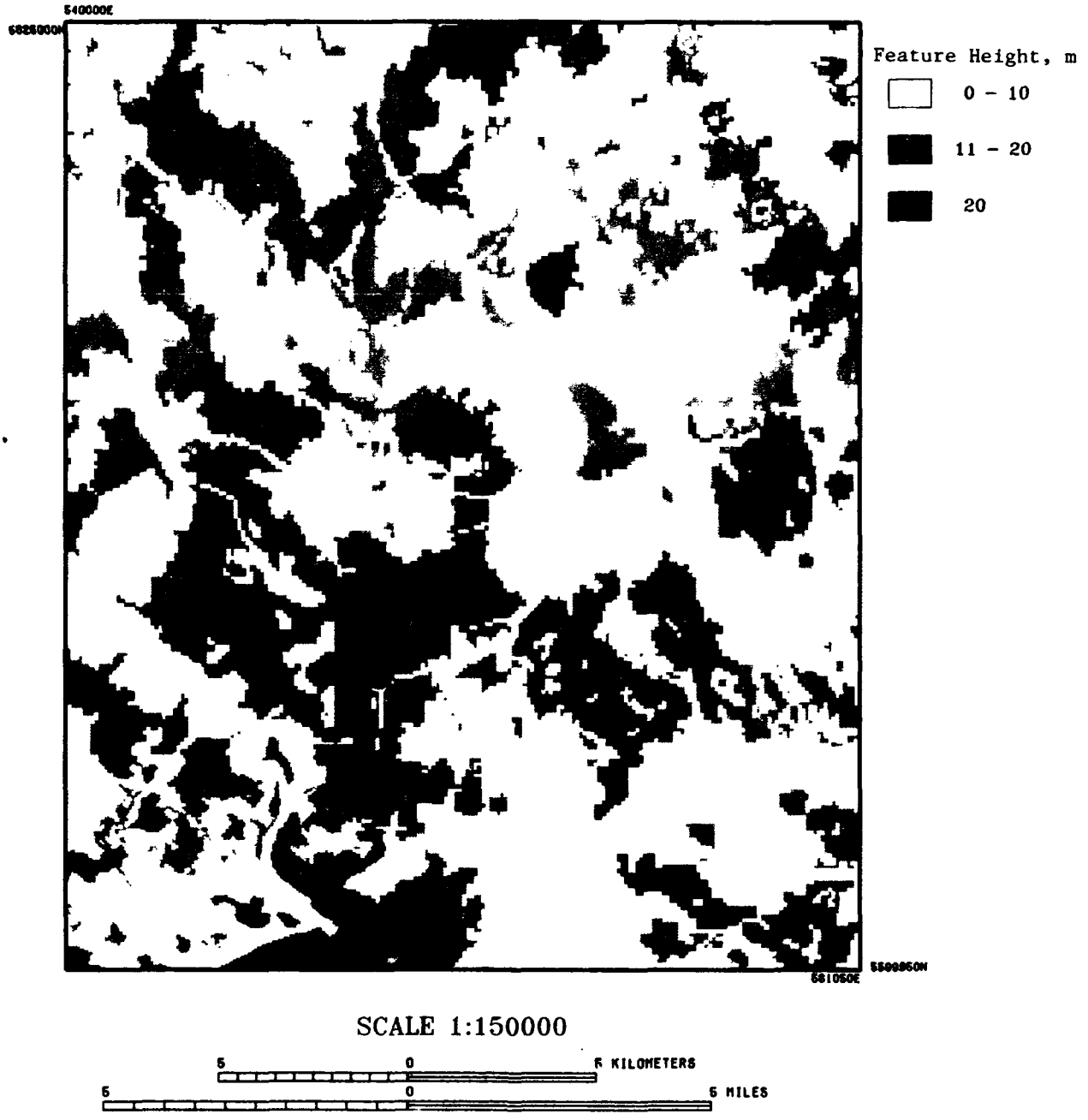


Figure 3. Feature (urban and vegetation) height data for Hunfeld-Fulda Region

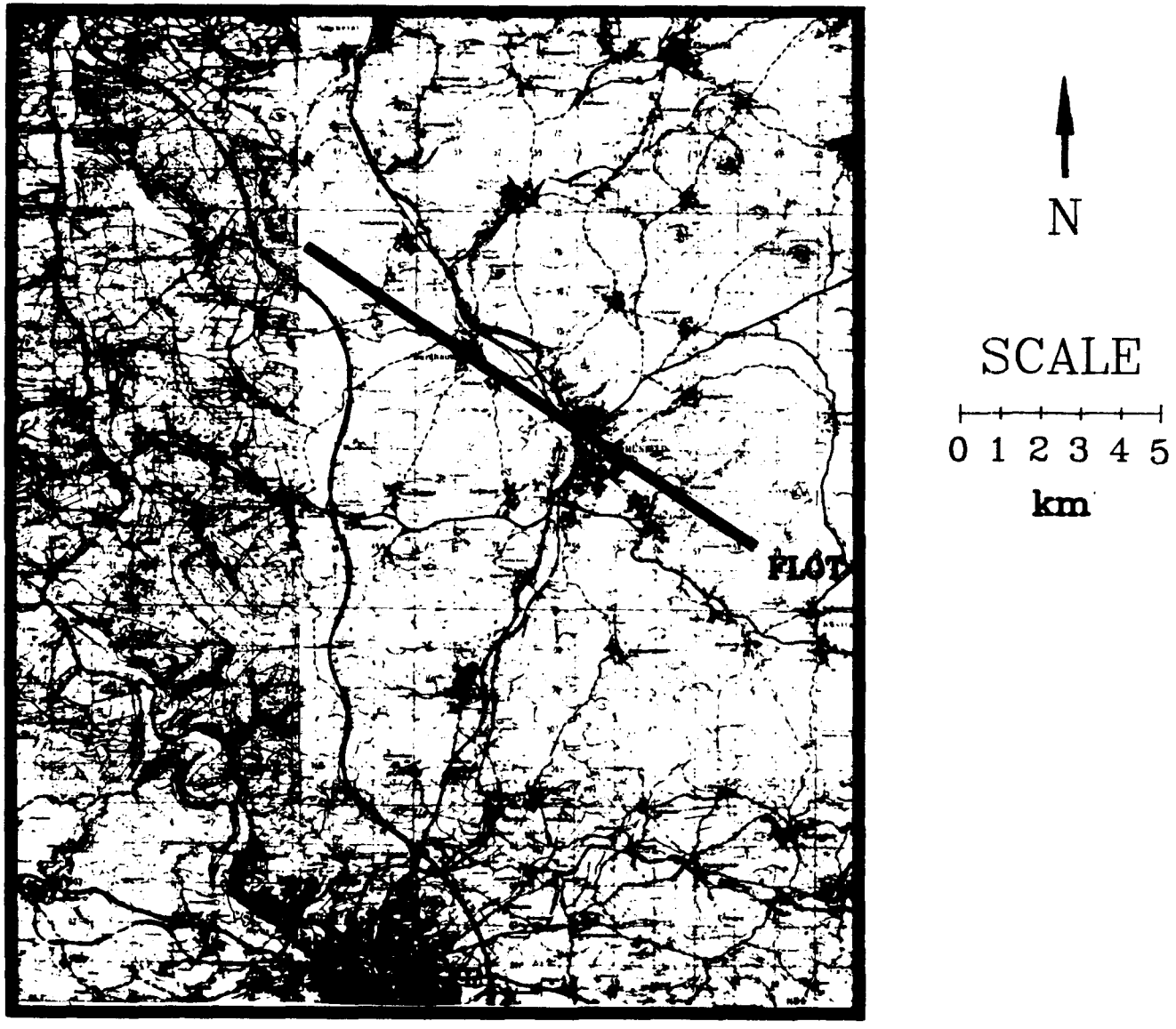


Figure 4. Fulda Gap Region

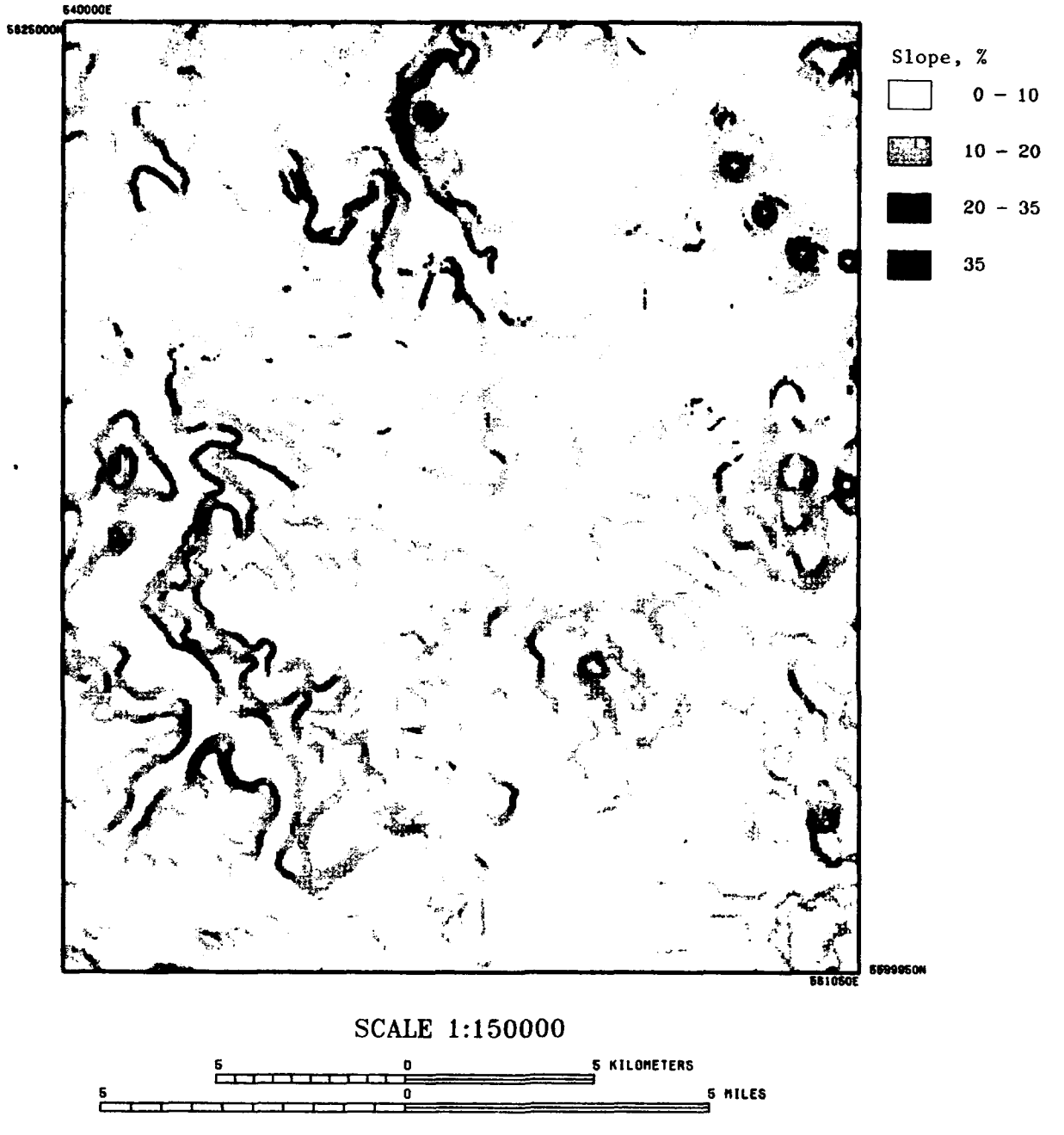


Figure 5. Slope magnitude distribution within Hunfeld-Fulda Region

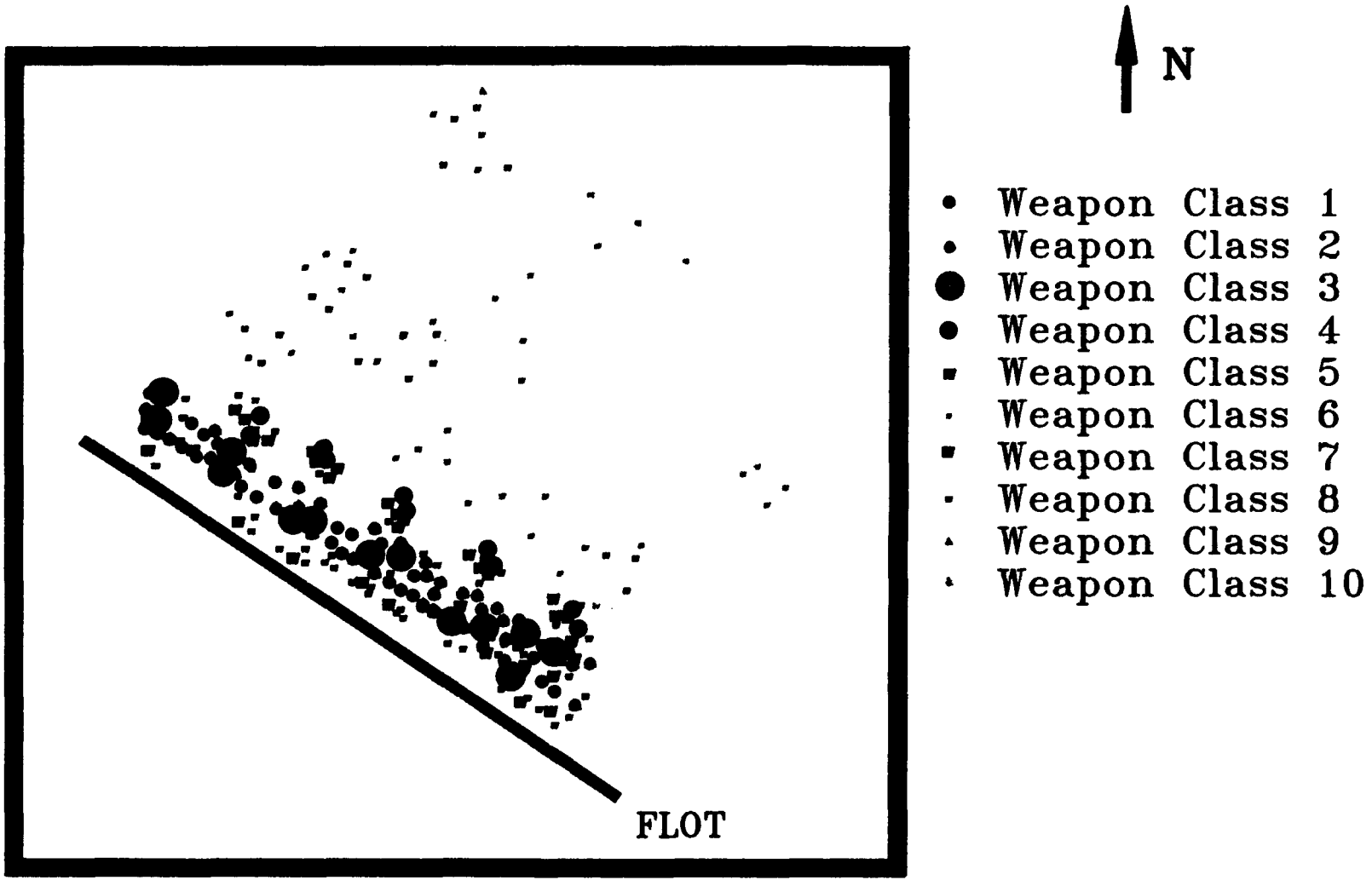
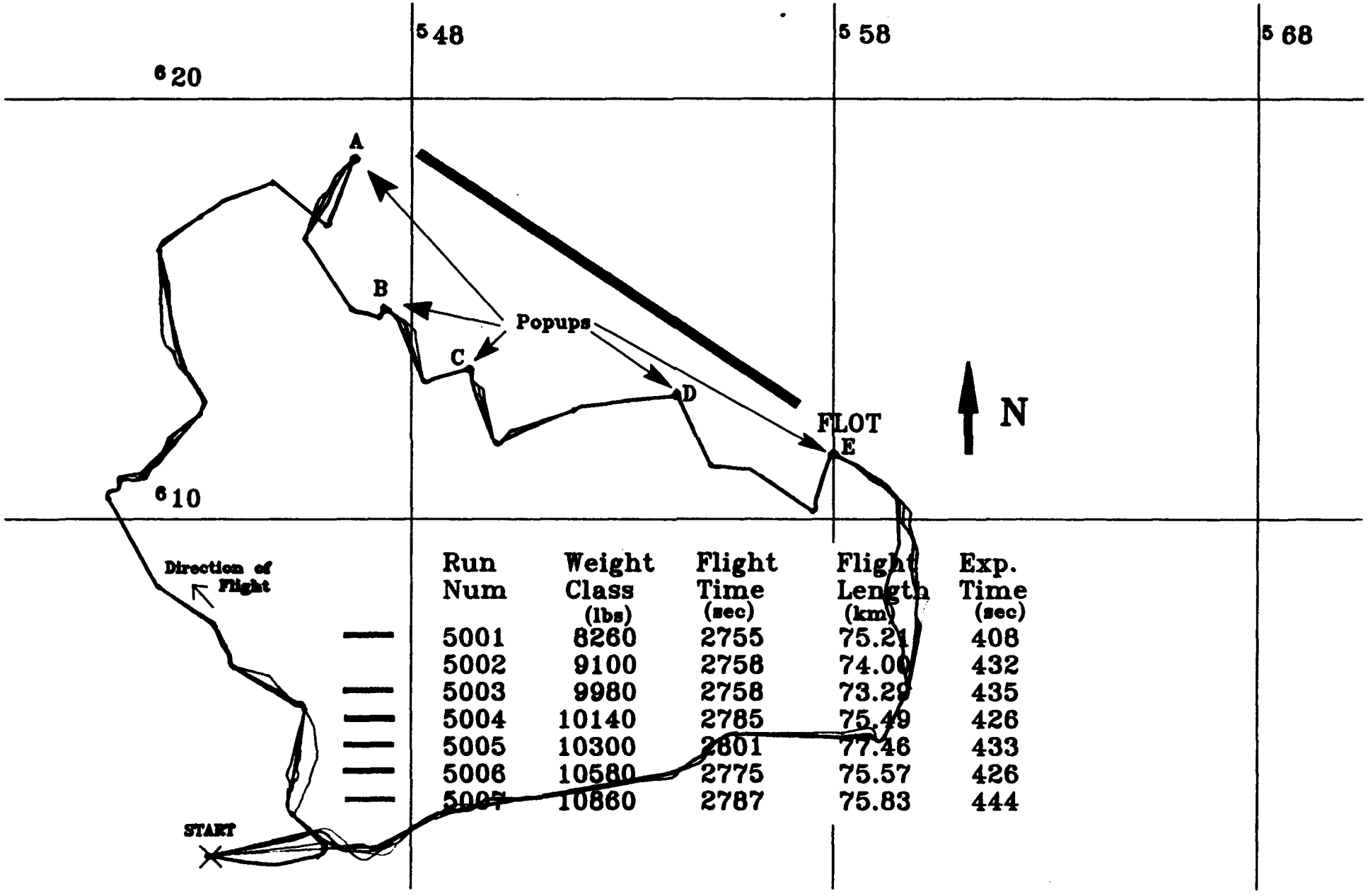


Figure 6. Weapons locations



Run Num	Weight Class (lbs)	Flight Time (sec)	Flight Length (km)	Exp. Time (sec)
5001	8260	2755	75.21	408
5002	9100	2758	74.00	432
5003	9980	2758	73.29	435
5004	10140	2785	75.49	426
5005	10300	2801	77.46	433
5006	10580	2775	75.57	426
5007	10860	2787	75.83	444

Figure 7. Multi-mode unconstrained runs armed recon flight 1

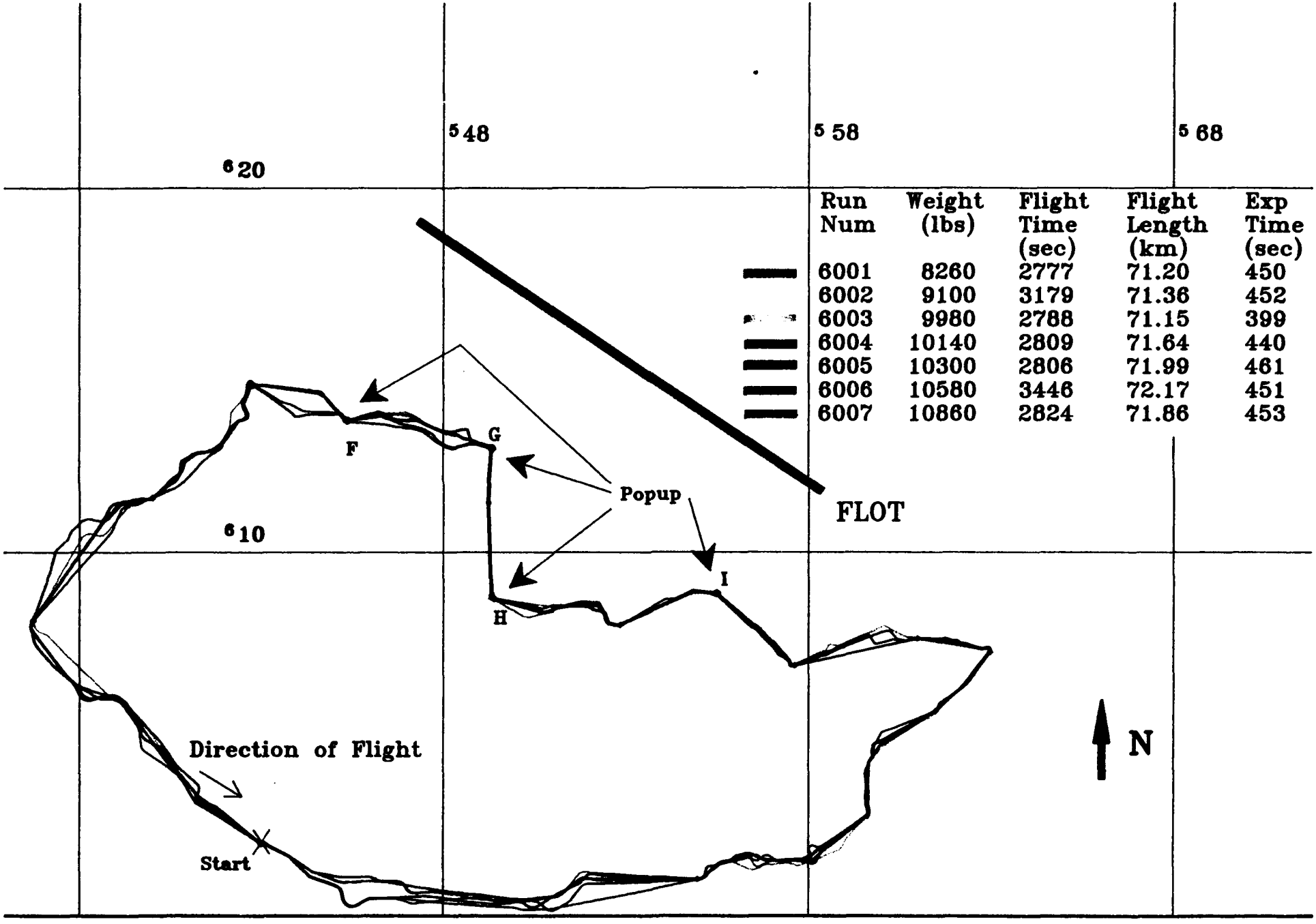
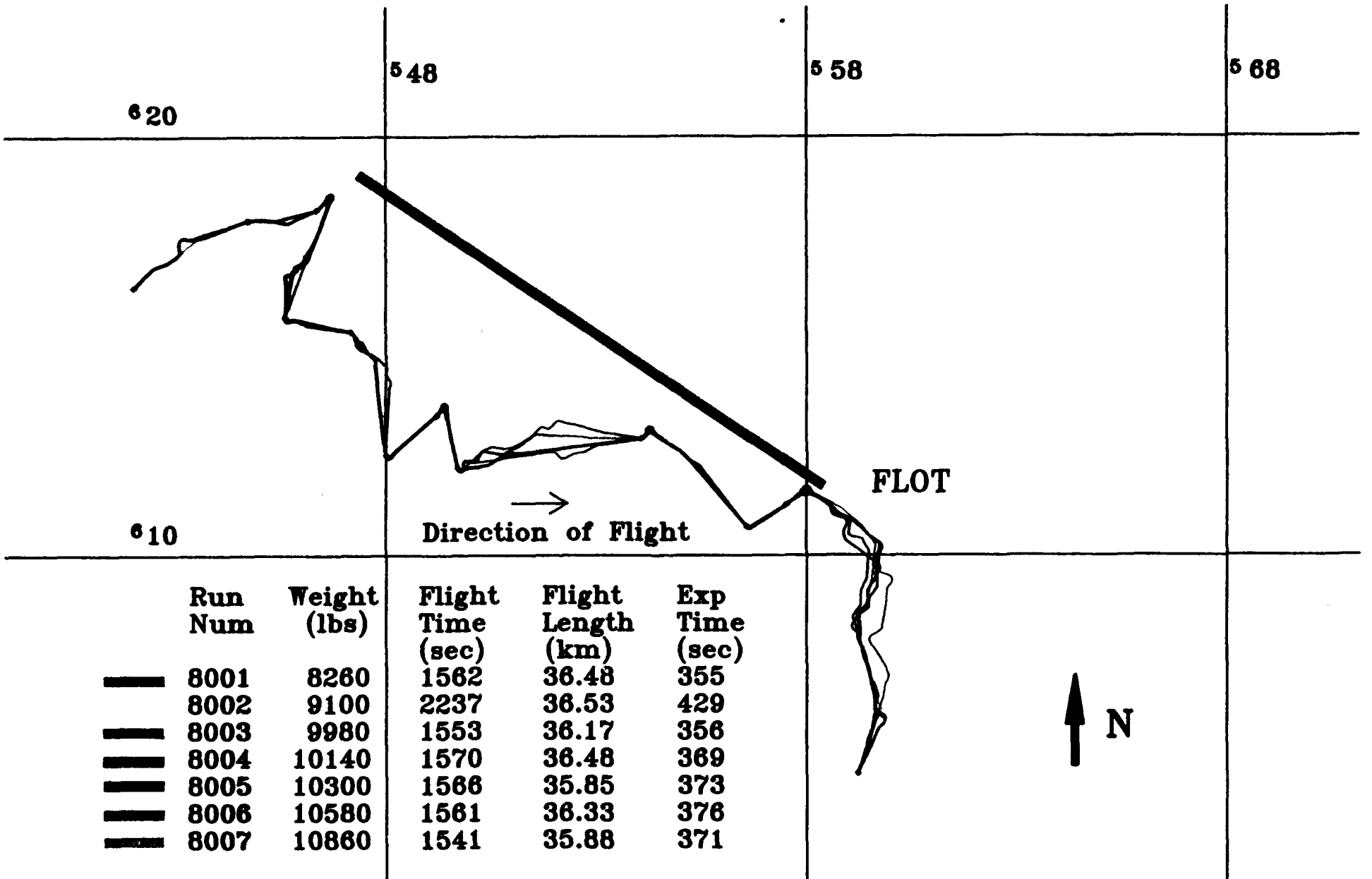
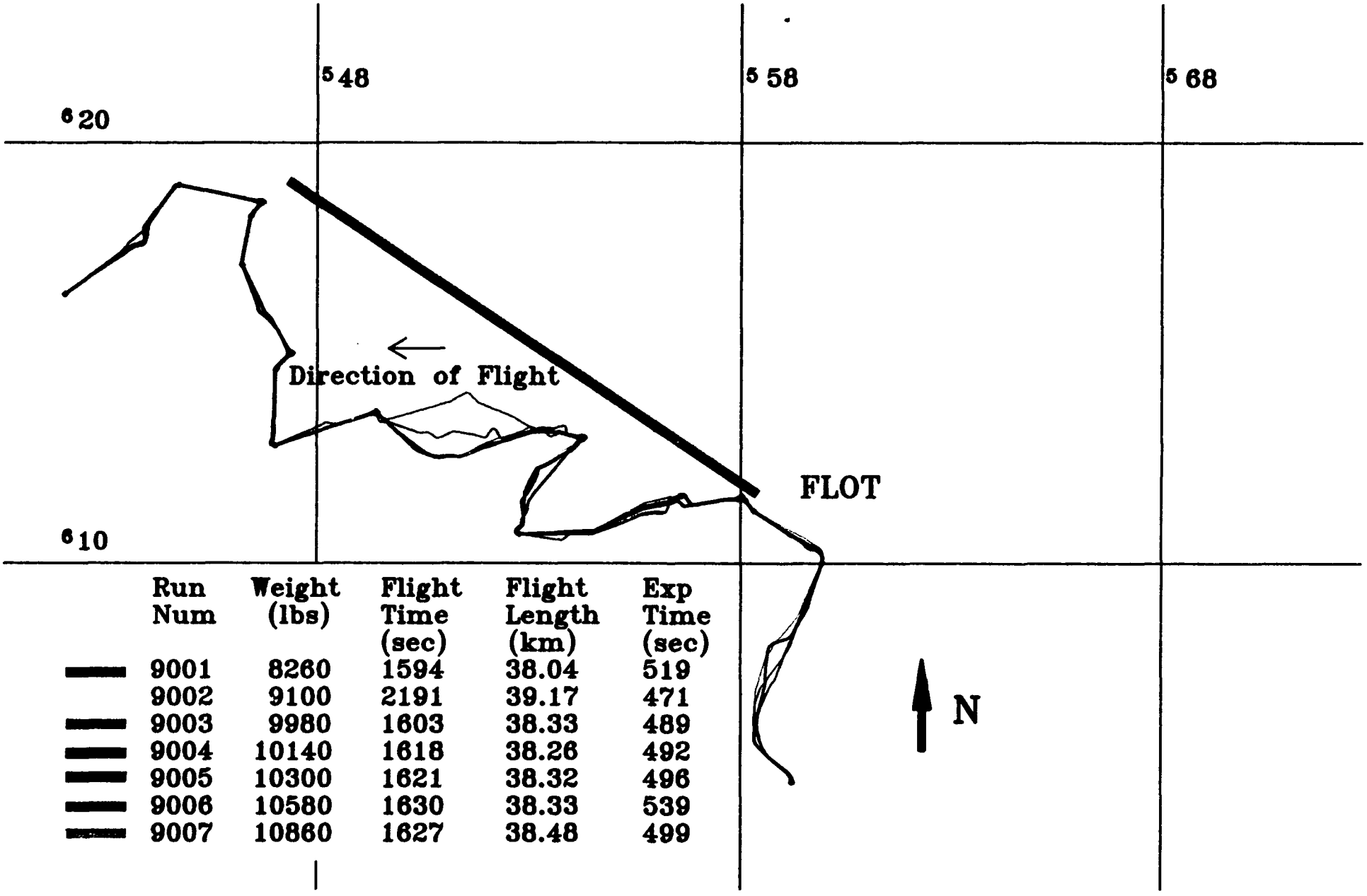


Figure 8. Multi-mode unconstrained runs armed recon flight 2



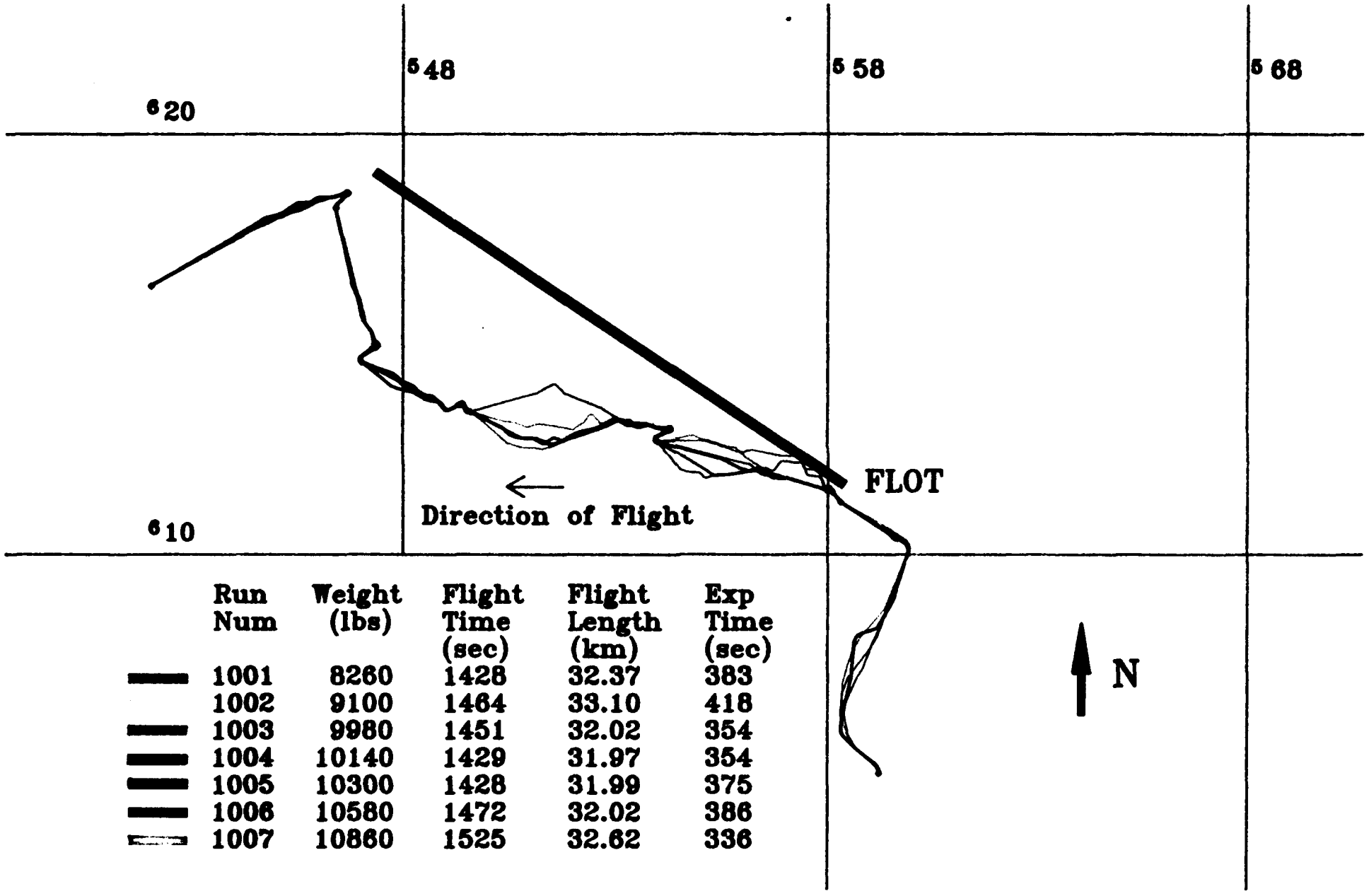
Run Num	Weight (lbs)	Flight Time (sec)	Flight Length (km)	Exp Time (sec)
8001	8260	1562	36.48	355
8002	9100	2237	36.53	429
8003	9980	1553	36.17	356
8004	10140	1570	36.48	369
8005	10300	1566	35.85	373
8006	10580	1561	36.33	376
8007	10860	1541	35.88	371

Figure 9. Flight path 3 multi-mode unconstrained runs



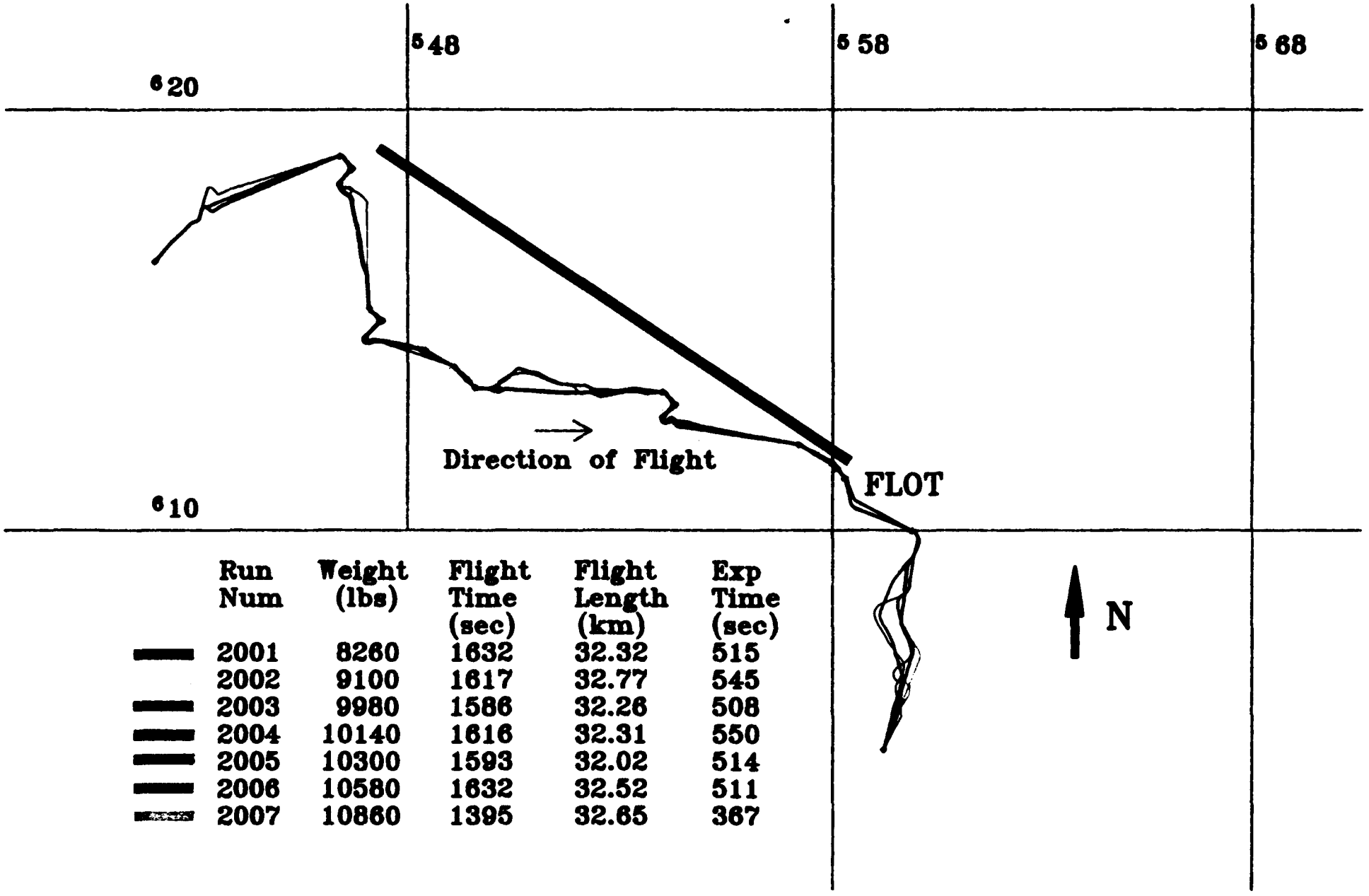
Run Num	Weight (lbs)	Flight Time (sec)	Flight Length (km)	Exp Time (sec)
9001	8260	1594	38.04	519
9002	9100	2191	39.17	471
9003	9980	1603	38.33	489
9004	10140	1618	38.26	492
9005	10300	1621	38.32	496
9006	10580	1630	38.33	539
9007	10860	1627	38.48	499

Figure 10. Flight path 4 multi-mode unconstrained runs



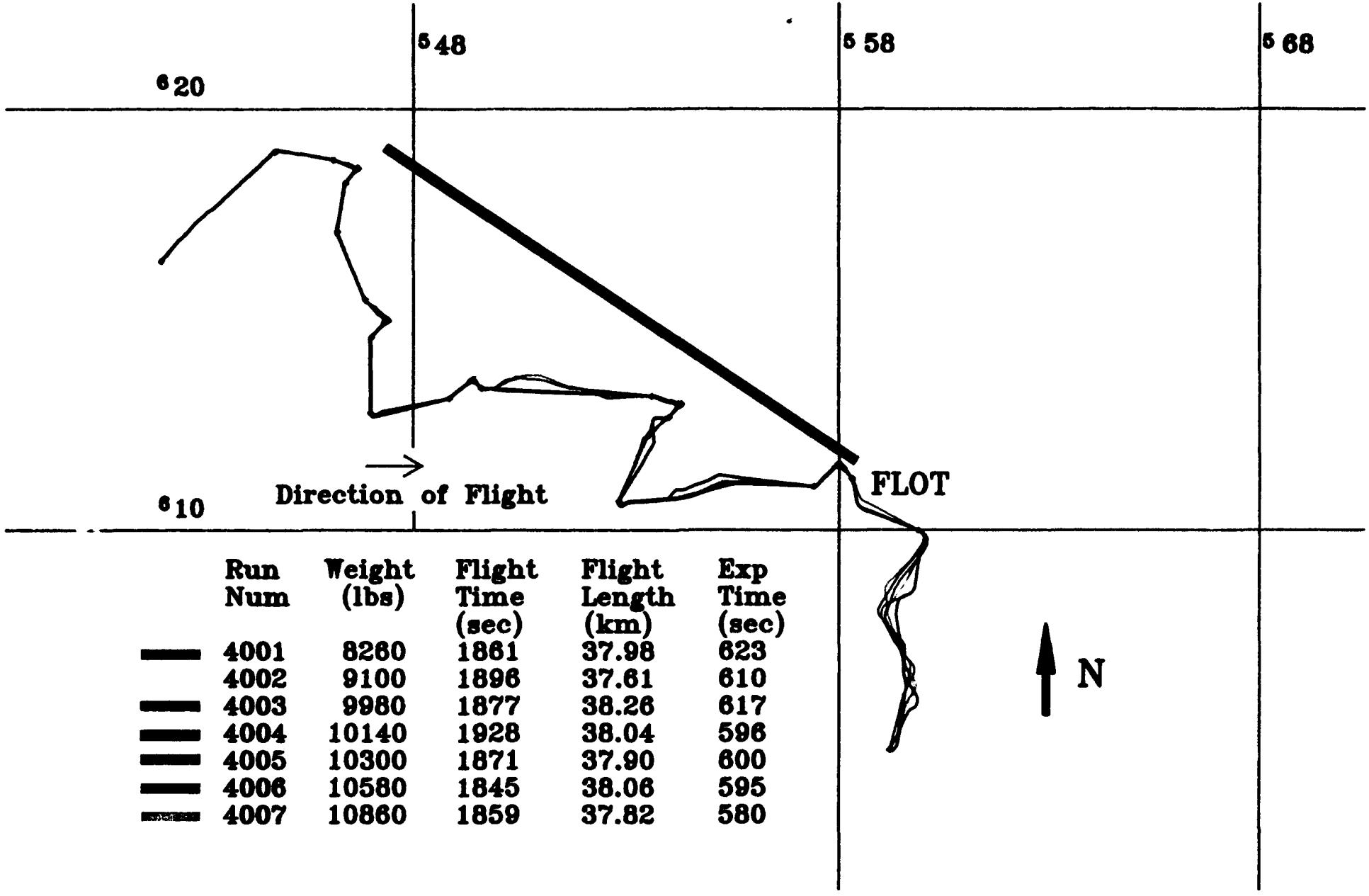
Run Num	Weight (lbs)	Flight Time (sec)	Flight Length (km)	Exp Time (sec)
1001	8260	1428	32.37	383
1002	9100	1464	33.10	418
1003	9980	1451	32.02	354
1004	10140	1429	31.97	354
1005	10300	1428	31.99	375
1006	10580	1472	32.02	386
1007	10860	1525	32.62	336

Figure 11. Flight path 5 multi-mode unconstrained runs



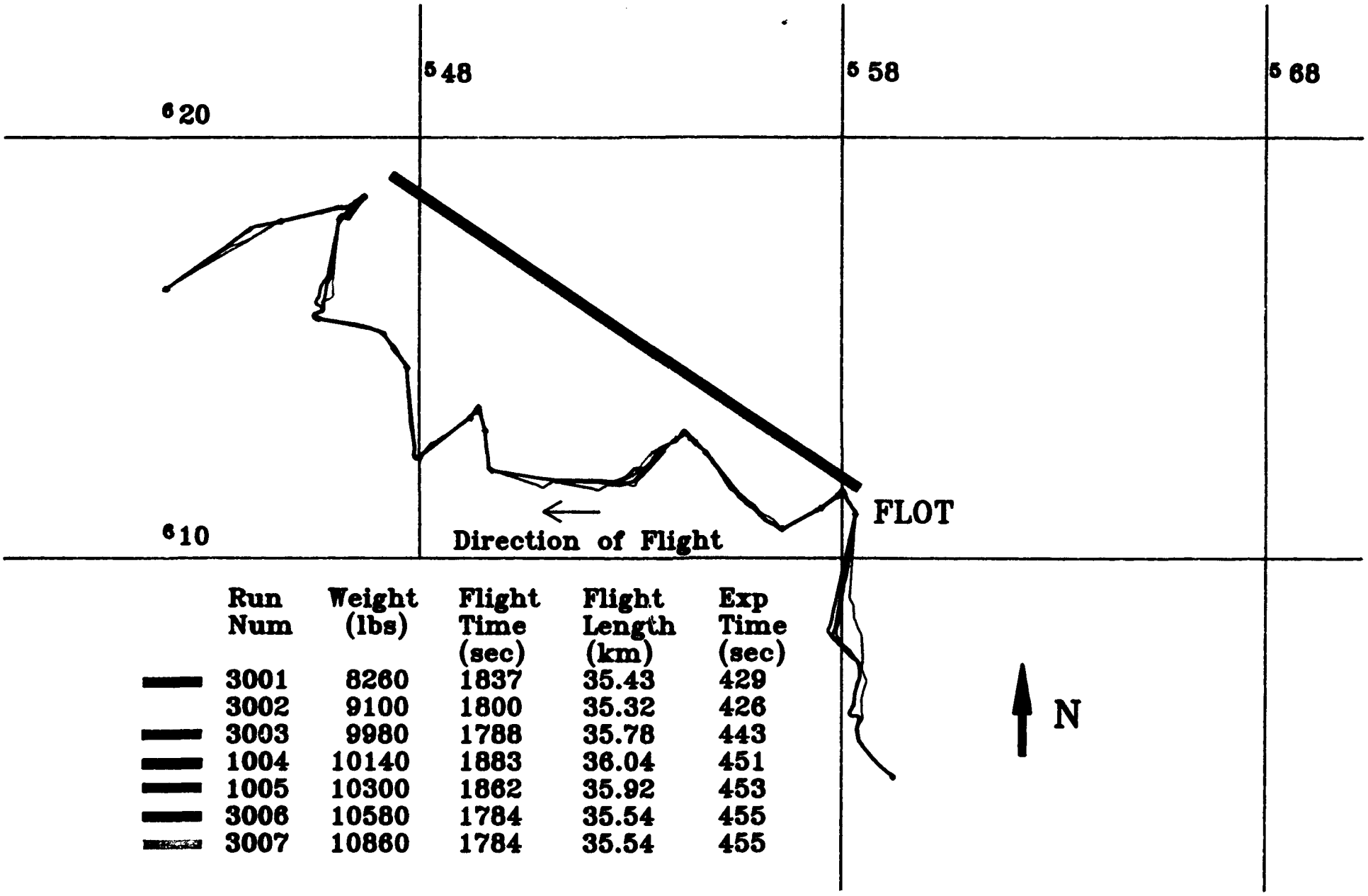
Run Num	Weight (lbs)	Flight Time (sec)	Flight Length (km)	Exp Time (sec)
2001	8260	1632	32.32	515
2002	9100	1617	32.77	545
2003	9980	1586	32.26	508
2004	10140	1616	32.31	550
2005	10300	1593	32.02	514
2006	10580	1632	32.52	511
2007	10860	1395	32.65	367

Figure 12. Flight path 6 multi-mode unconstrained runs



Run Num	Weight (lbs)	Flight Time (sec)	Flight Length (km)	Exp Time (sec)
4001	8260	1861	37.98	623
4002	9100	1896	37.61	610
4003	9980	1877	38.26	617
4004	10140	1928	38.04	596
4005	10300	1871	37.90	600
4006	10580	1845	38.06	595
4007	10860	1859	37.82	580

Figure 13. Flight path 7 multi-mode unconstrained runs



Run Num	Weight (lbs)	Flight Time (sec)	Flight Length (km)	Exp Time (sec)
3001	8260	1837	35.43	429
3002	9100	1800	35.32	426
3003	9980	1788	35.78	443
1004	10140	1883	36.04	451
1005	10300	1862	35.92	453
3006	10580	1784	35.54	455
3007	10860	1784	35.54	455

Figure 14. Flight path 8 multi-mode unconstrained runs

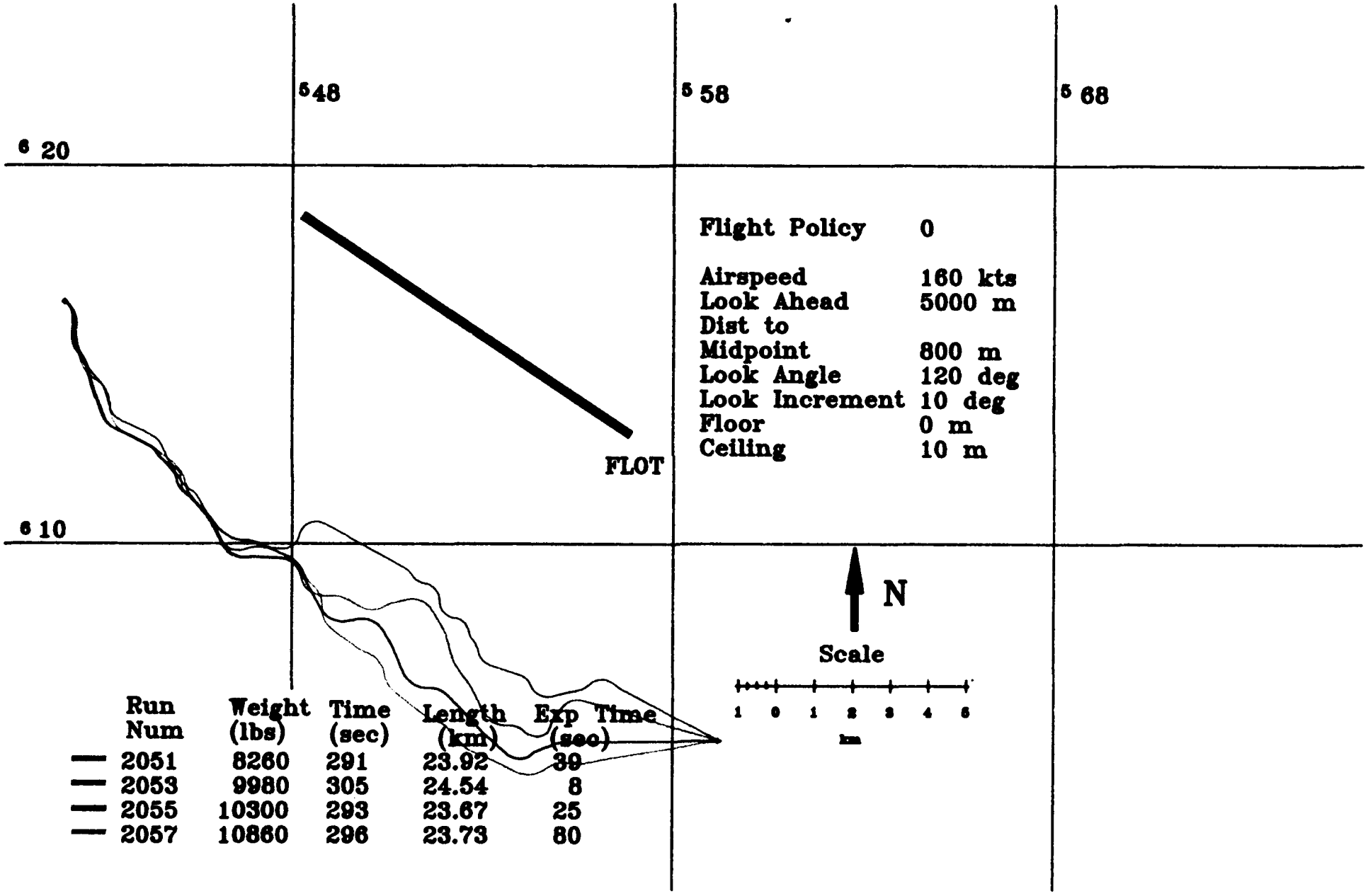


Figure 15. Single-mode unconstrained run, flight policy 0

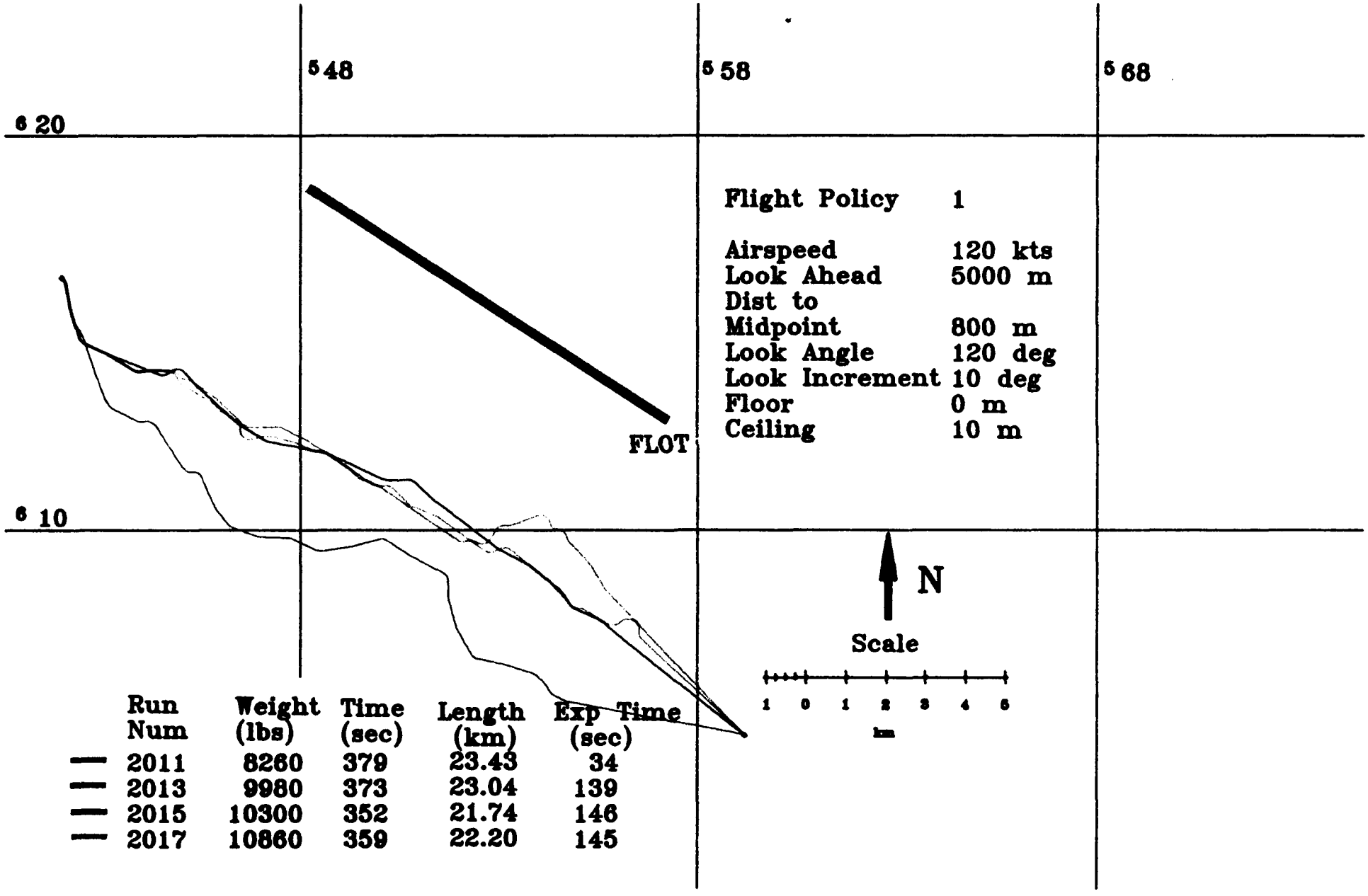


Figure 16. Single-mode unconstrained run, flight policy 1

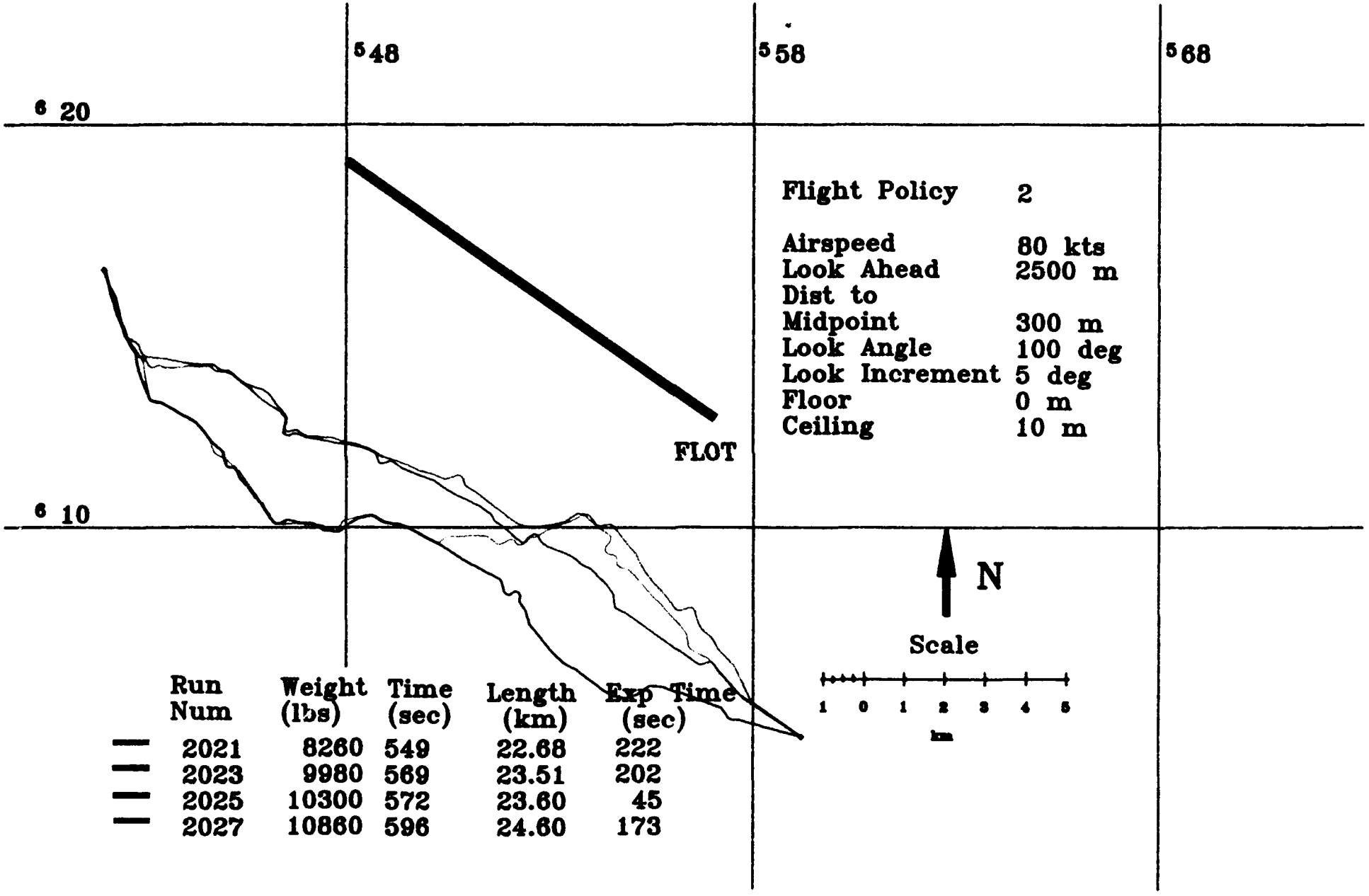


Figure 17. Single-mode unconstrained run, flight policy 2

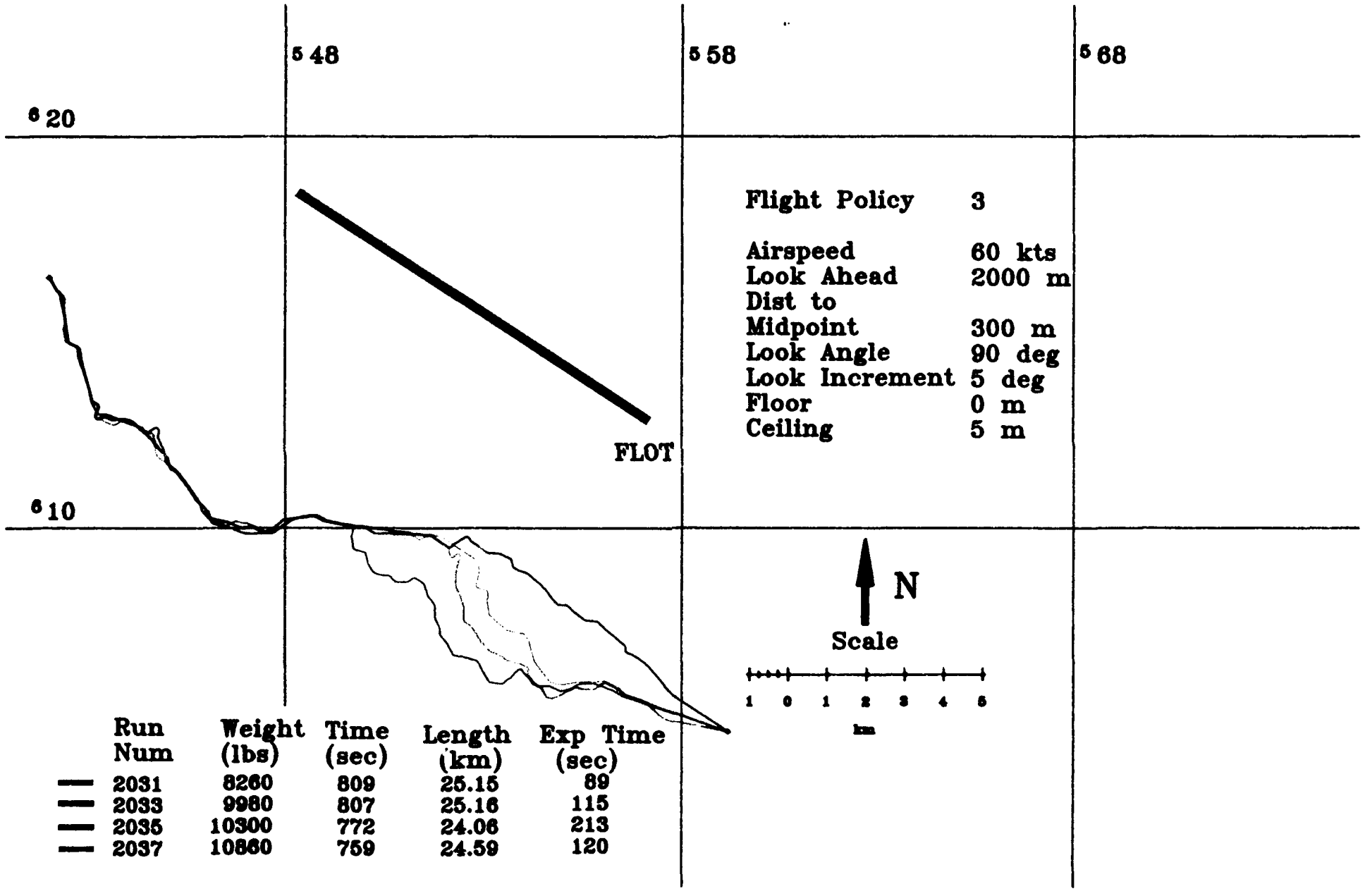


Figure 18. Single-mode unconstrained run, flight policy 3

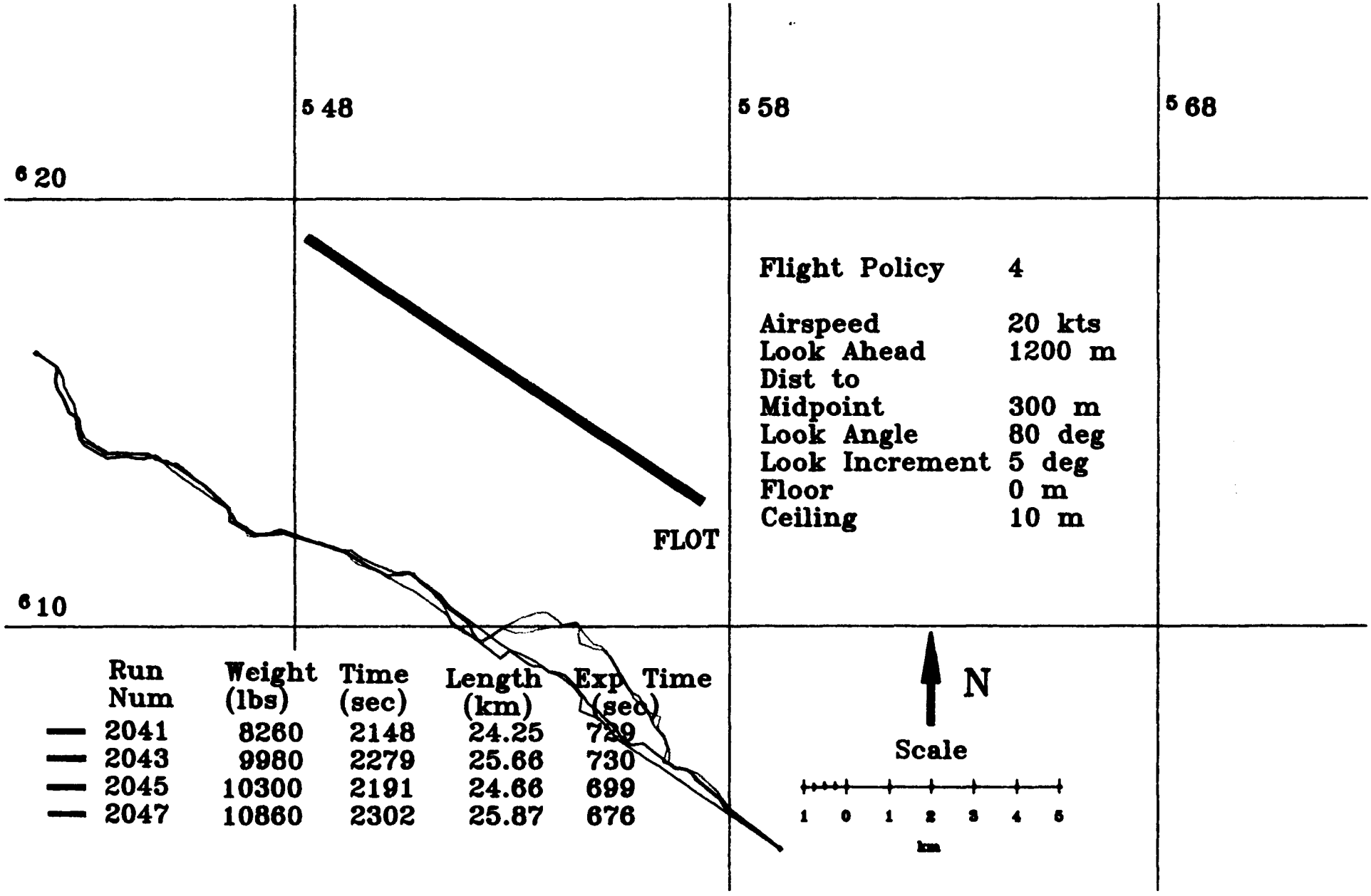


Figure 19. Single-mode unconstrained run, flight policy 4

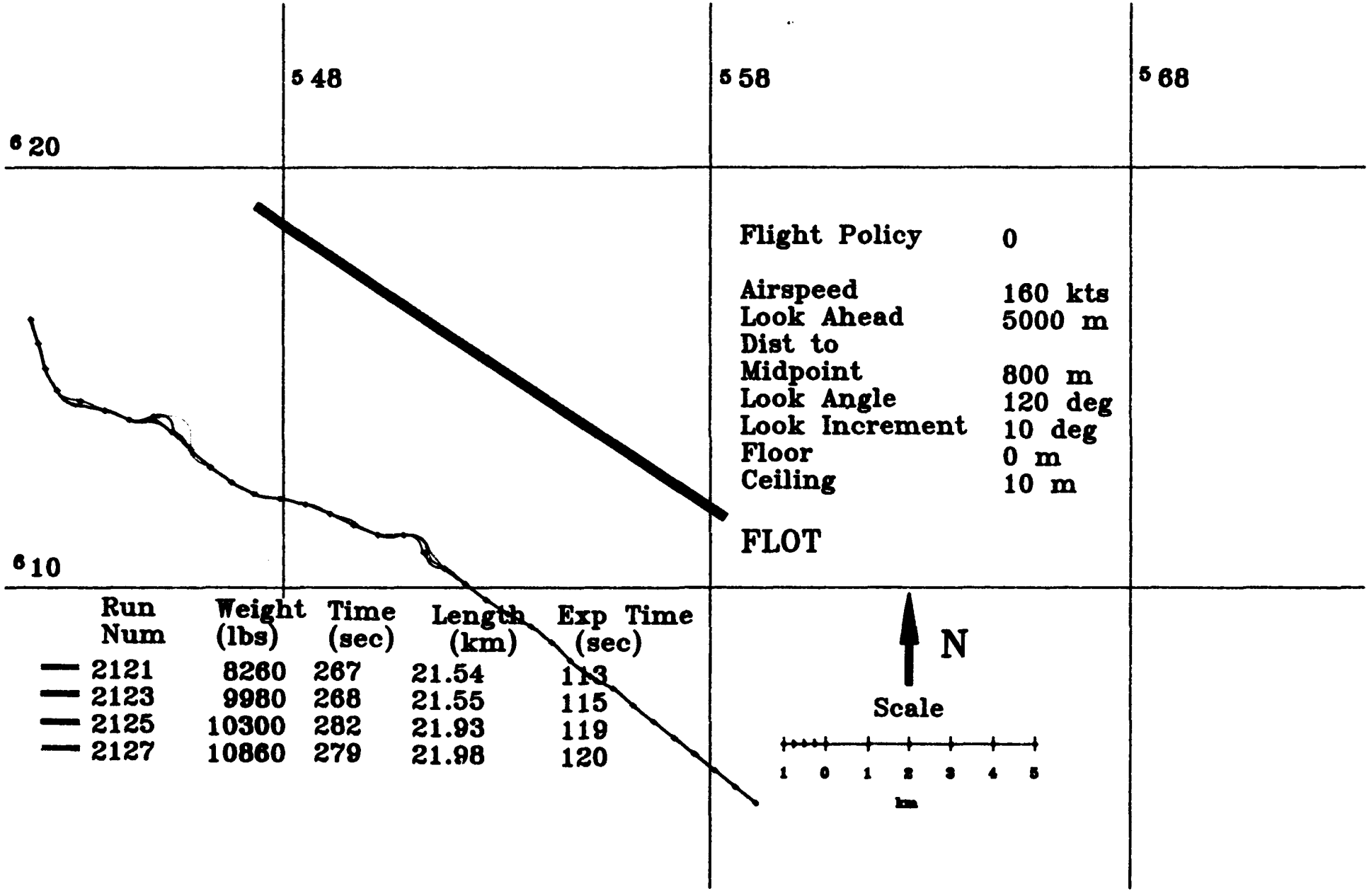
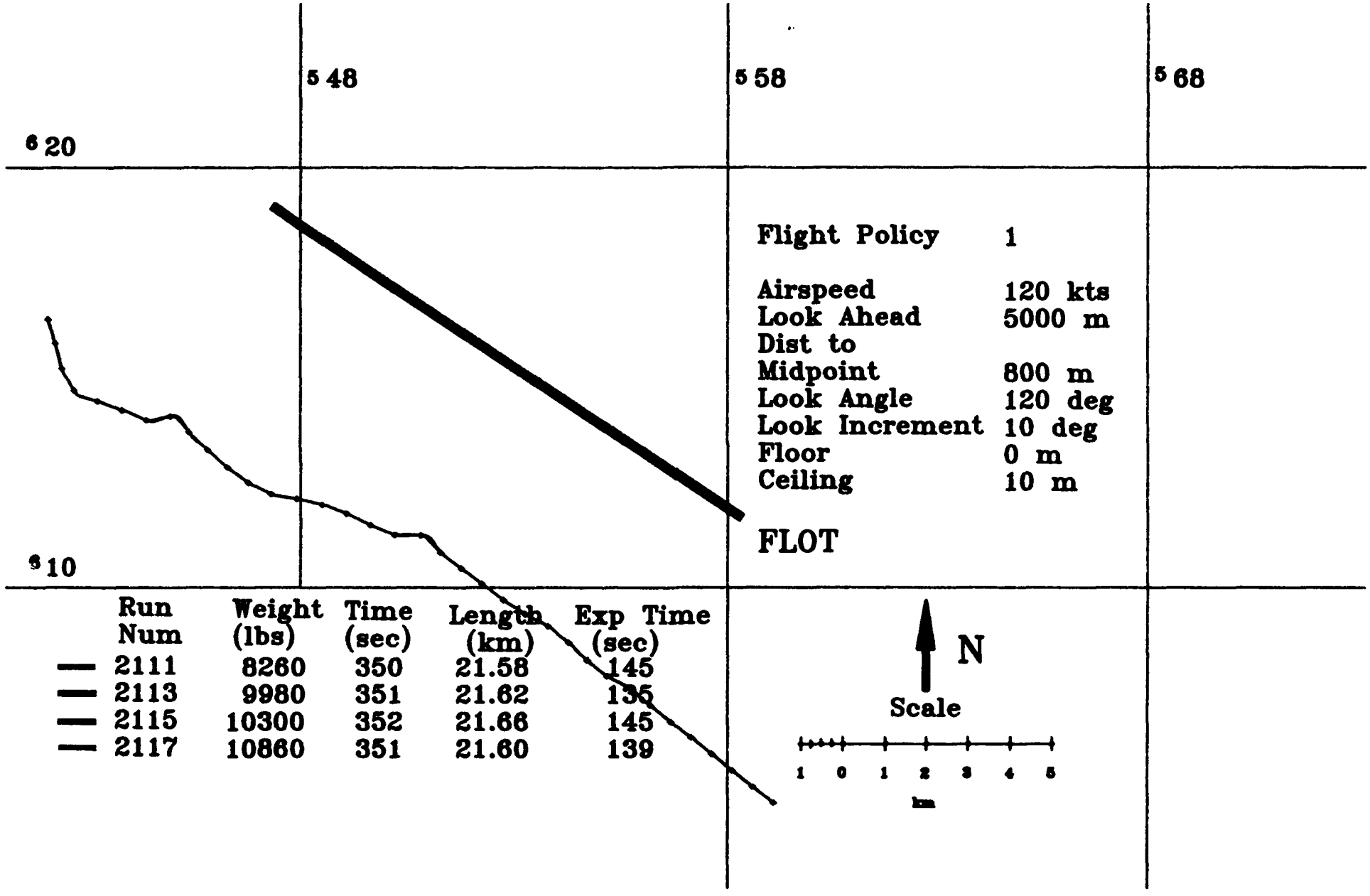


Figure 20. Constrained runs, flight 1 (Sheet 1 of 4)



Run Num	Weight (lbs)	Time (sec)	Length (km)	Exp Time (sec)
2111	8260	350	21.58	145
2113	9980	351	21.62	135
2115	10300	352	21.66	145
2117	10860	351	21.60	139

Figure 20. (Sheet 2 of 4)

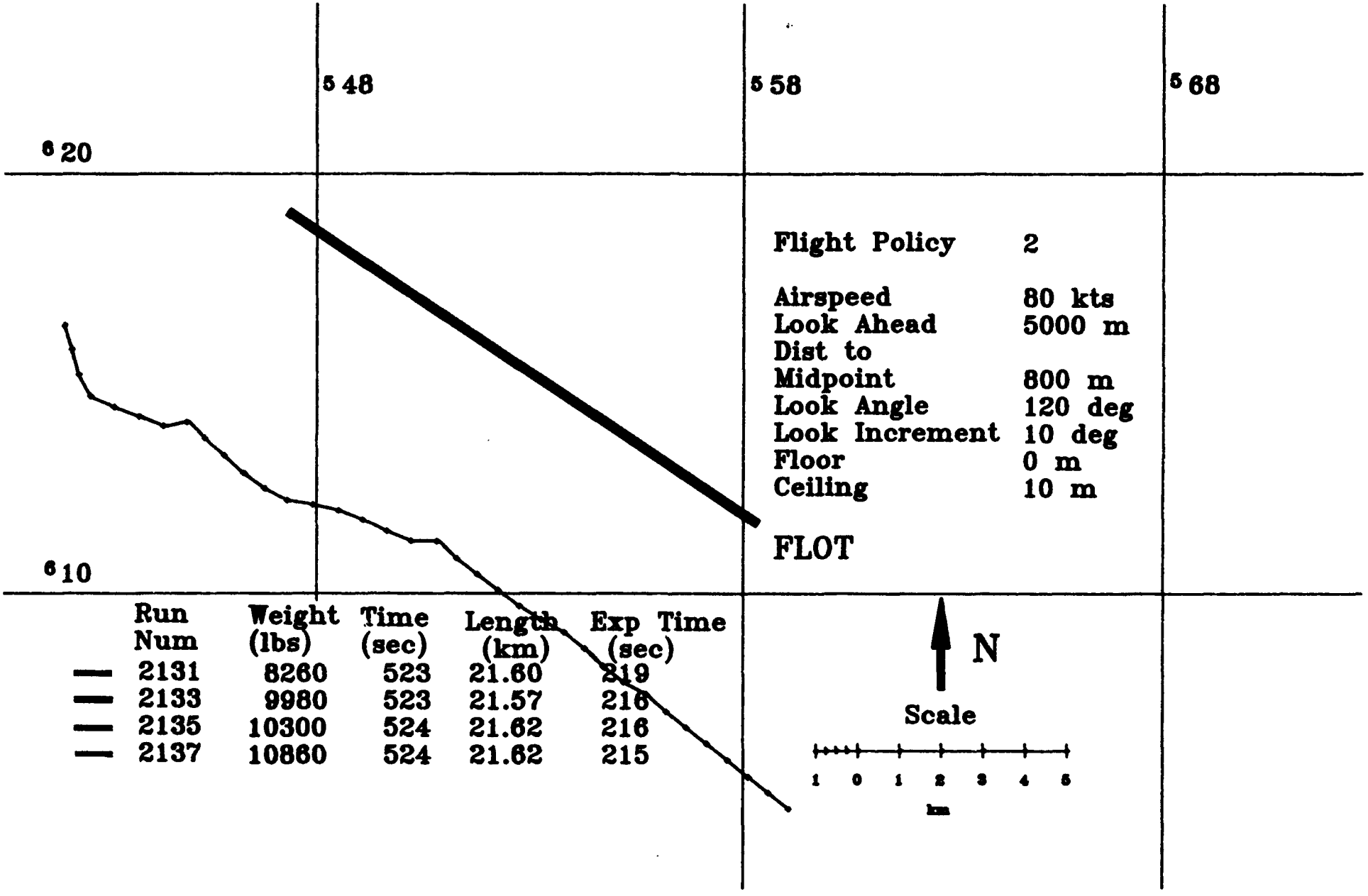


Figure 20. (Sheet 3 of 4)

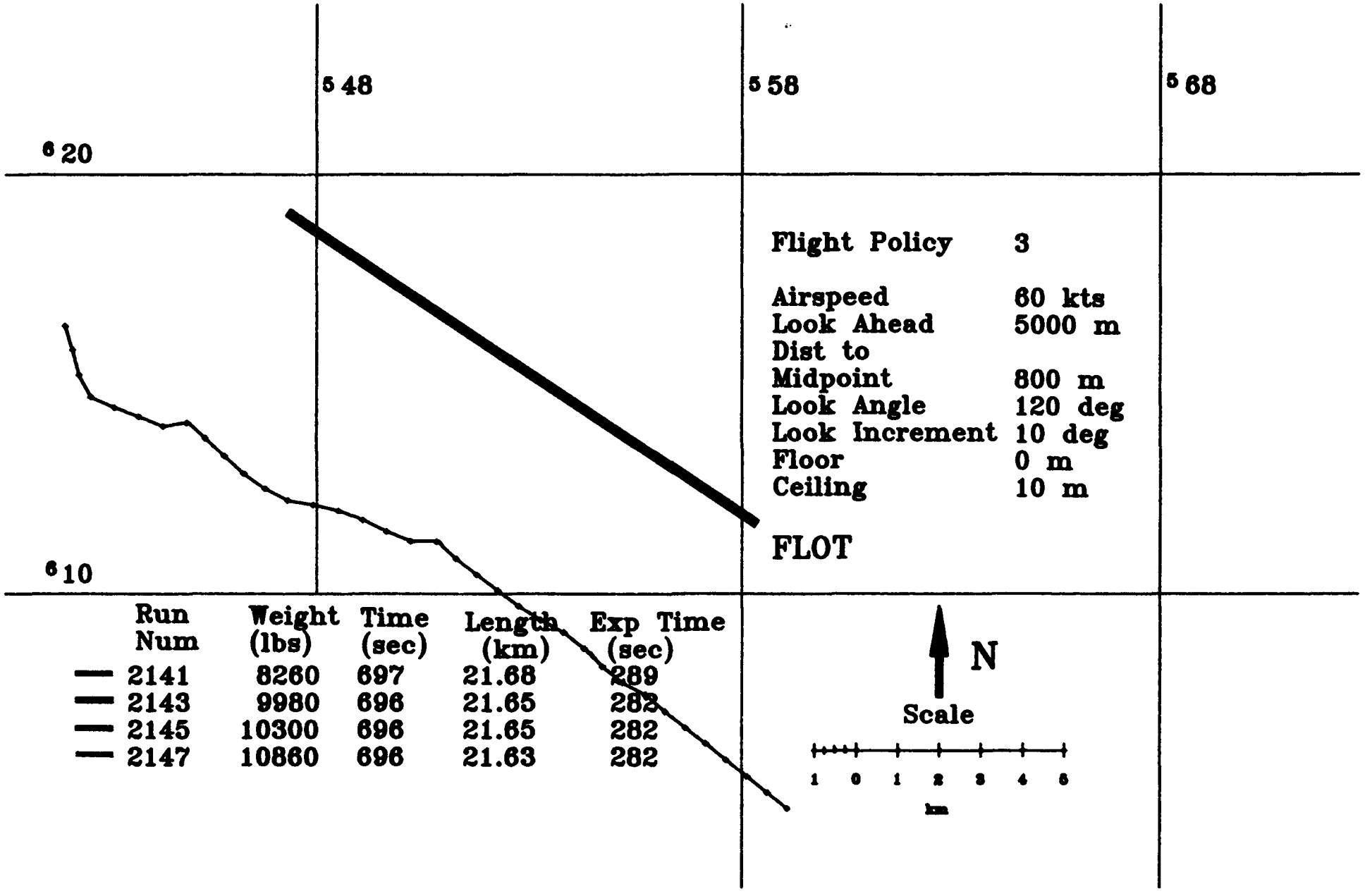


Figure 20. (Sheet 4 of 4)

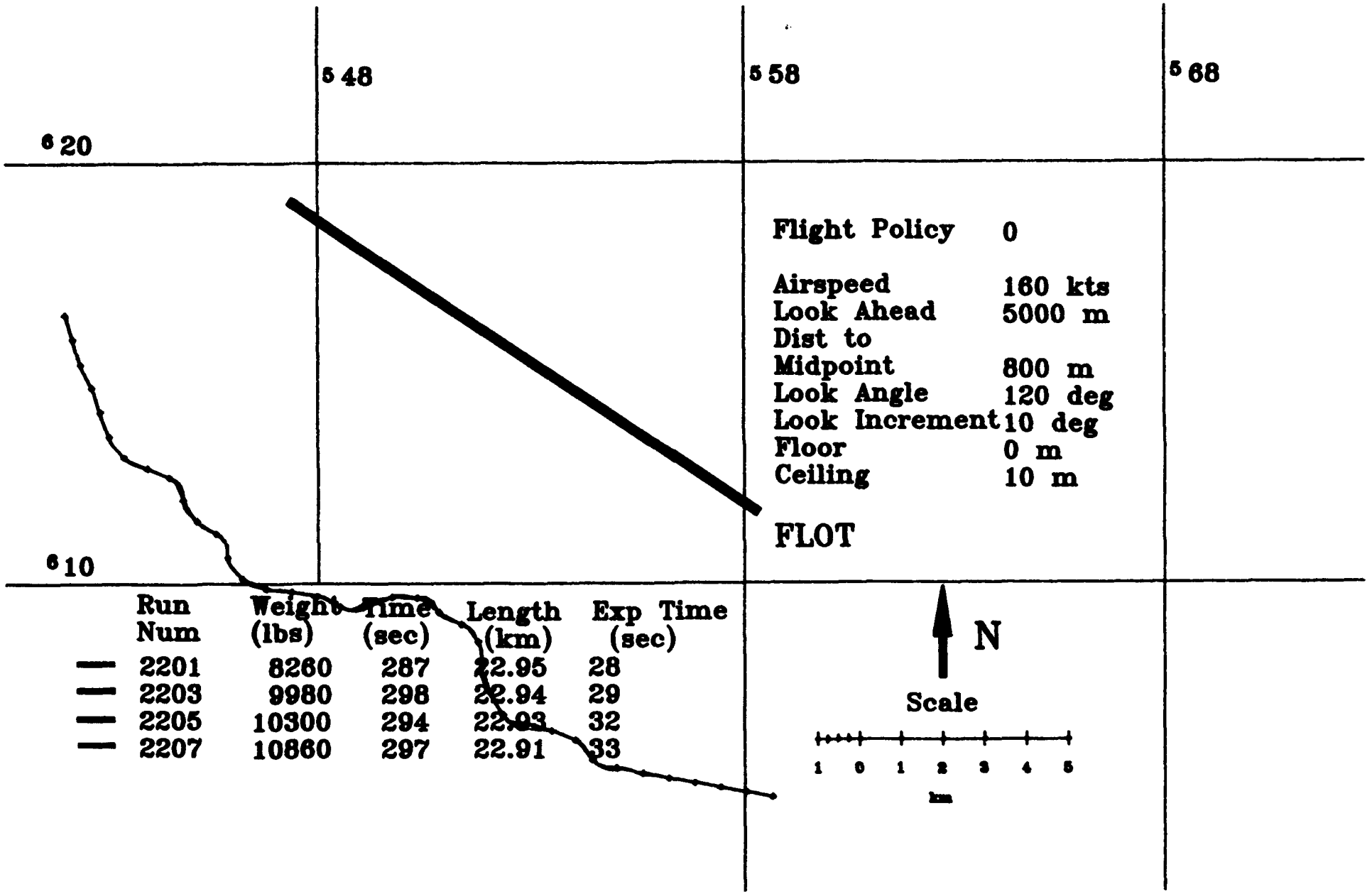


Figure 21. Constrained runs, flight 2 (Sheet 1 of 4)

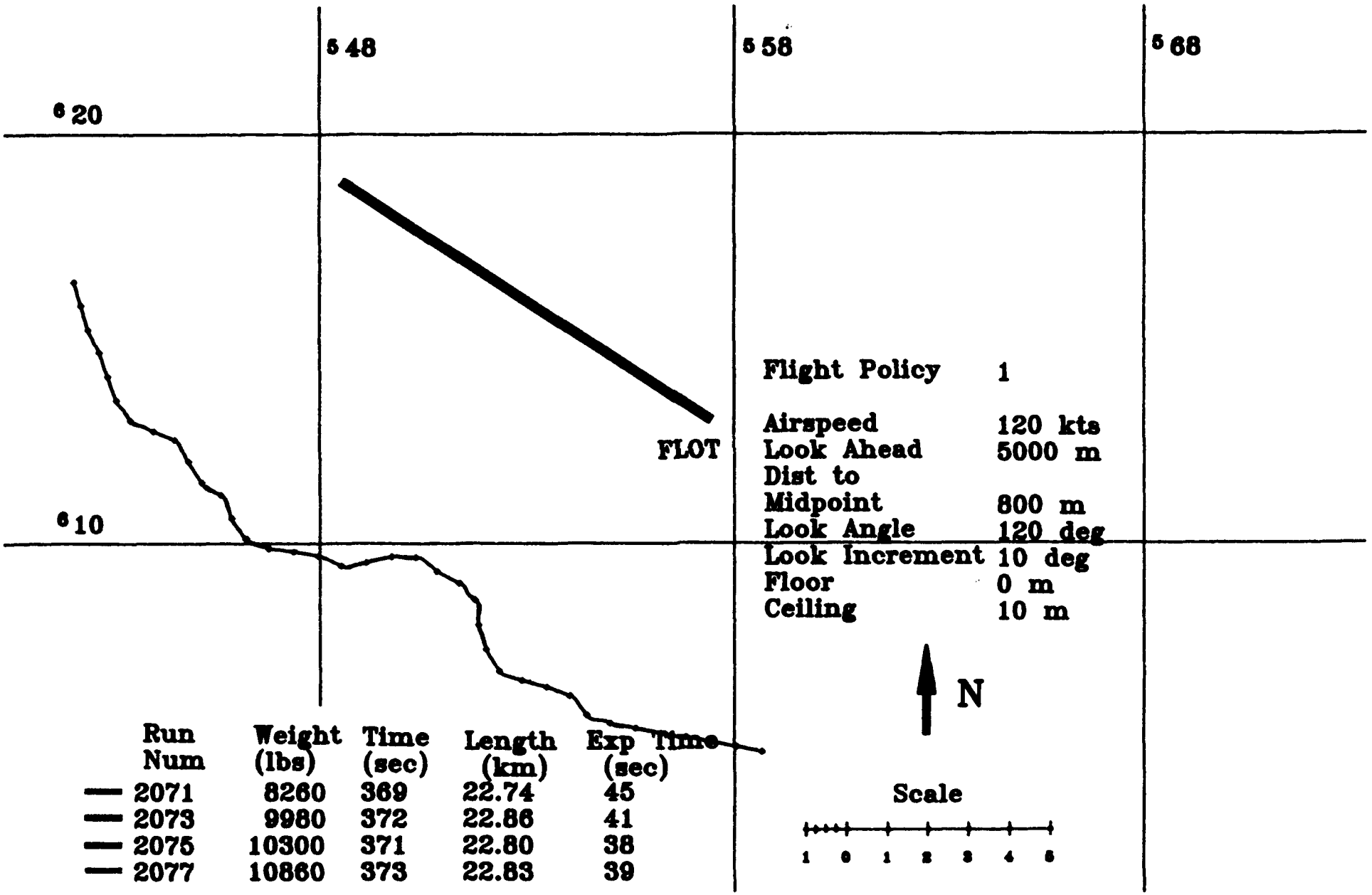


Figure 21. (Sheet 2 of 4)

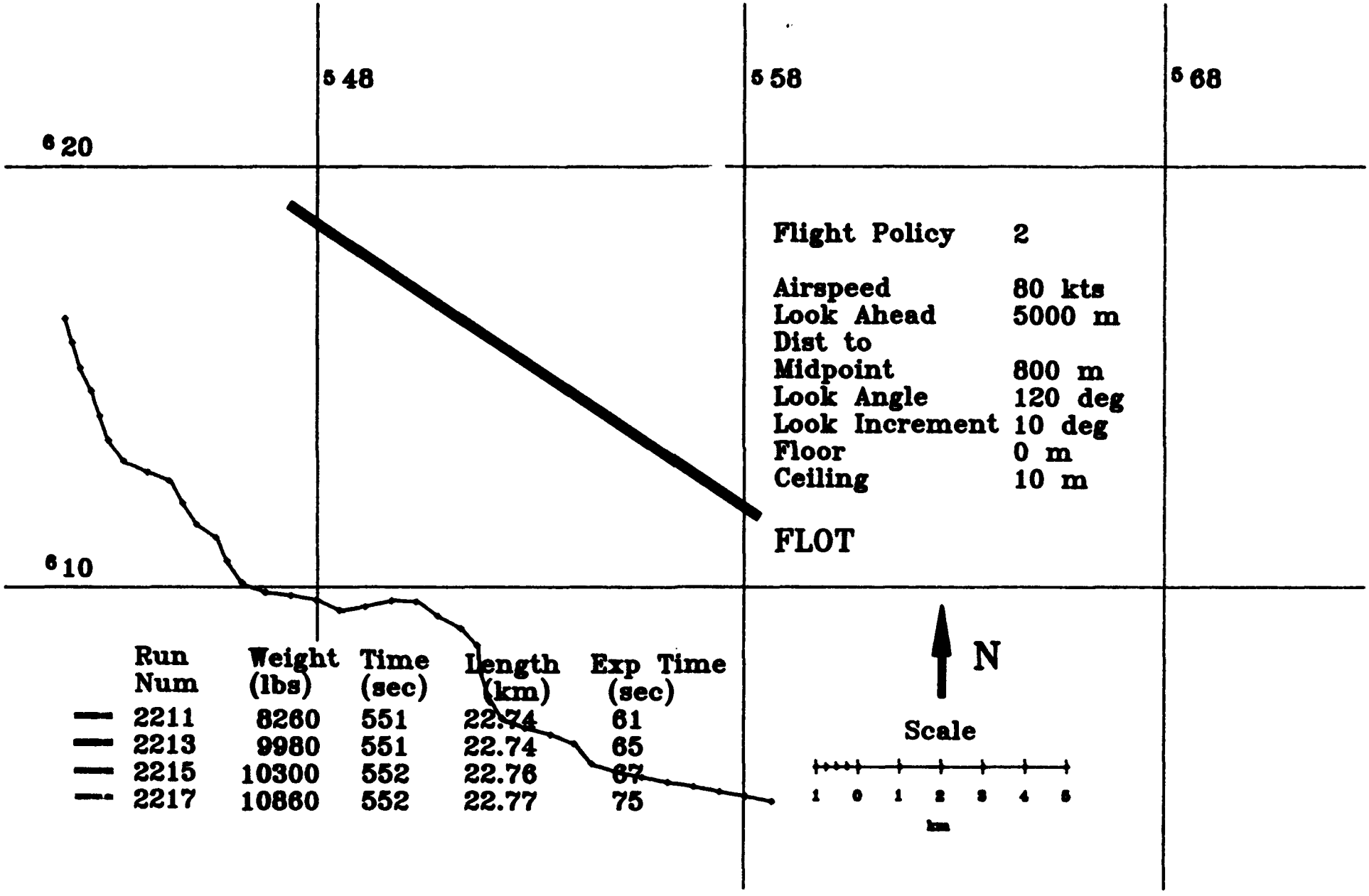


Figure 21. (Sheet 3 of 4)

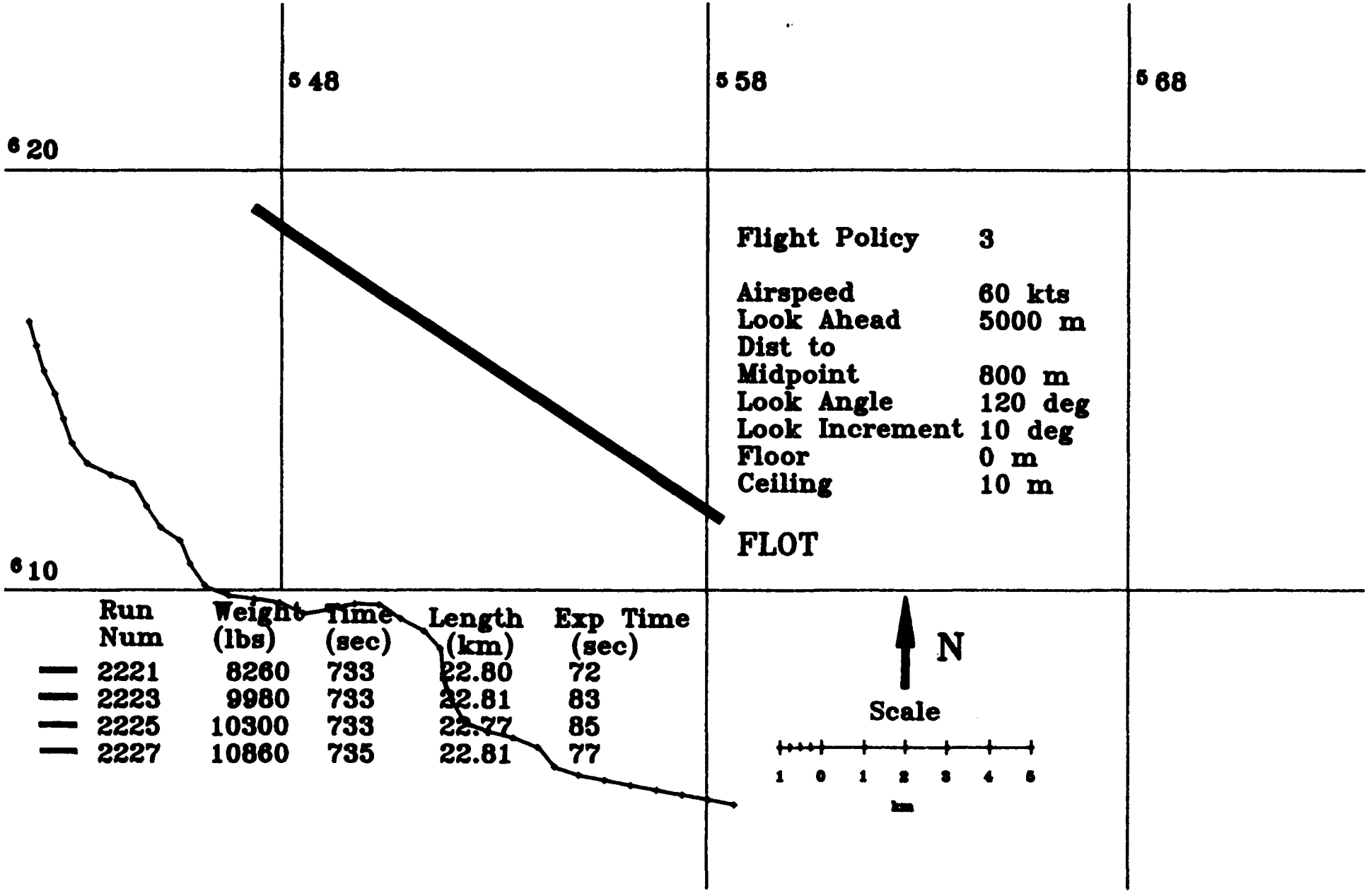


Figure 21. (Sheet 4 of 4)

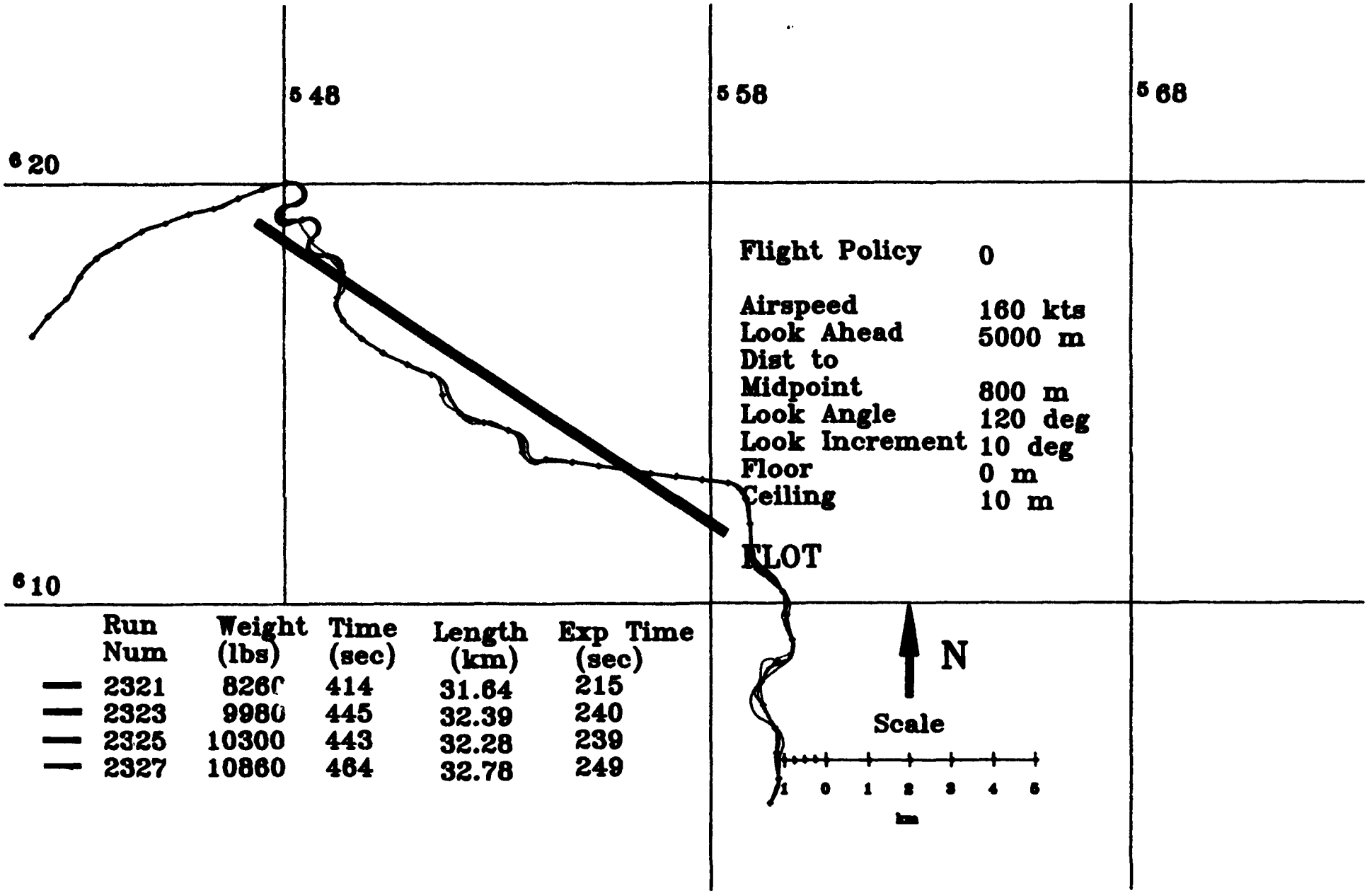
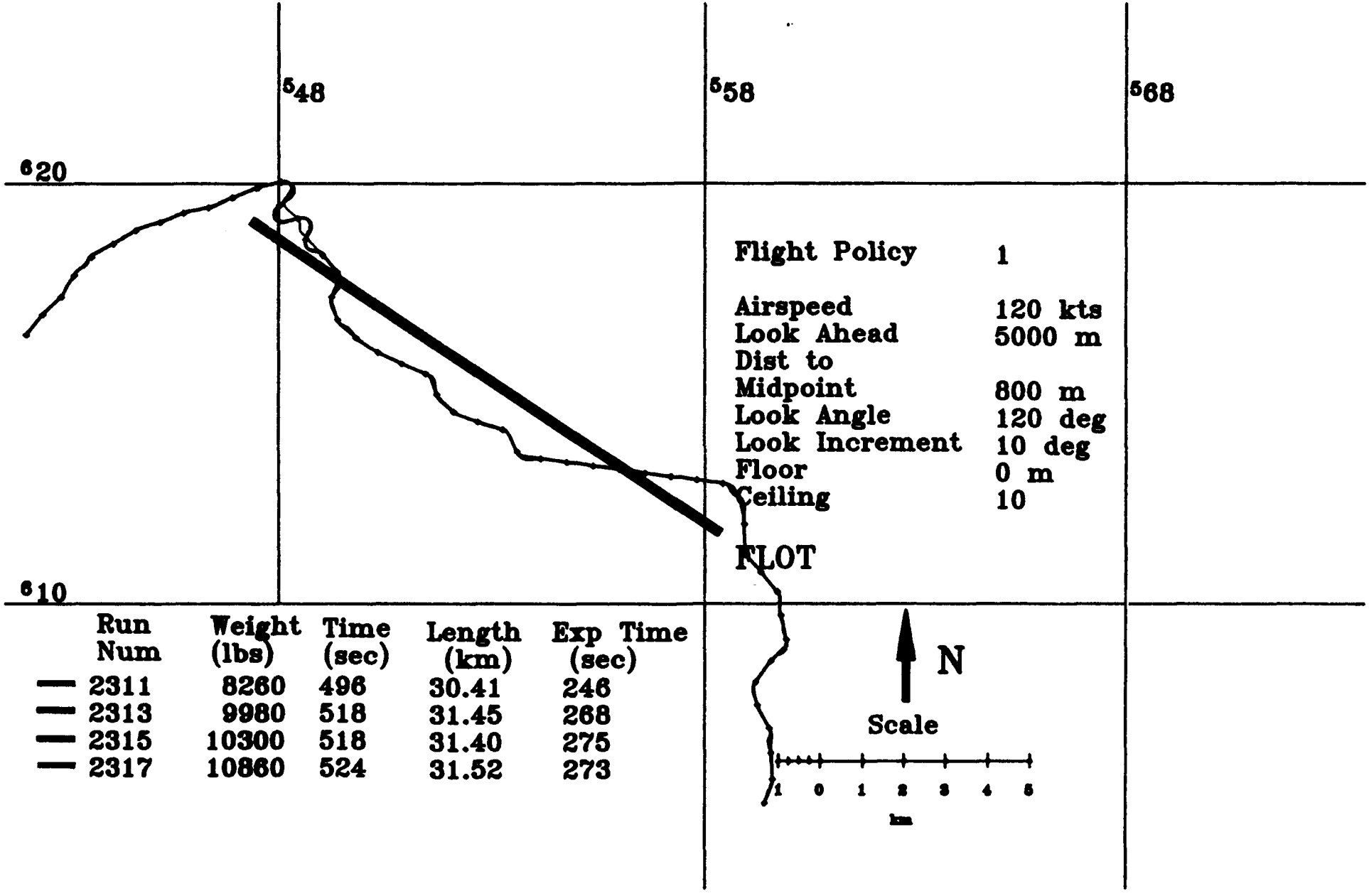
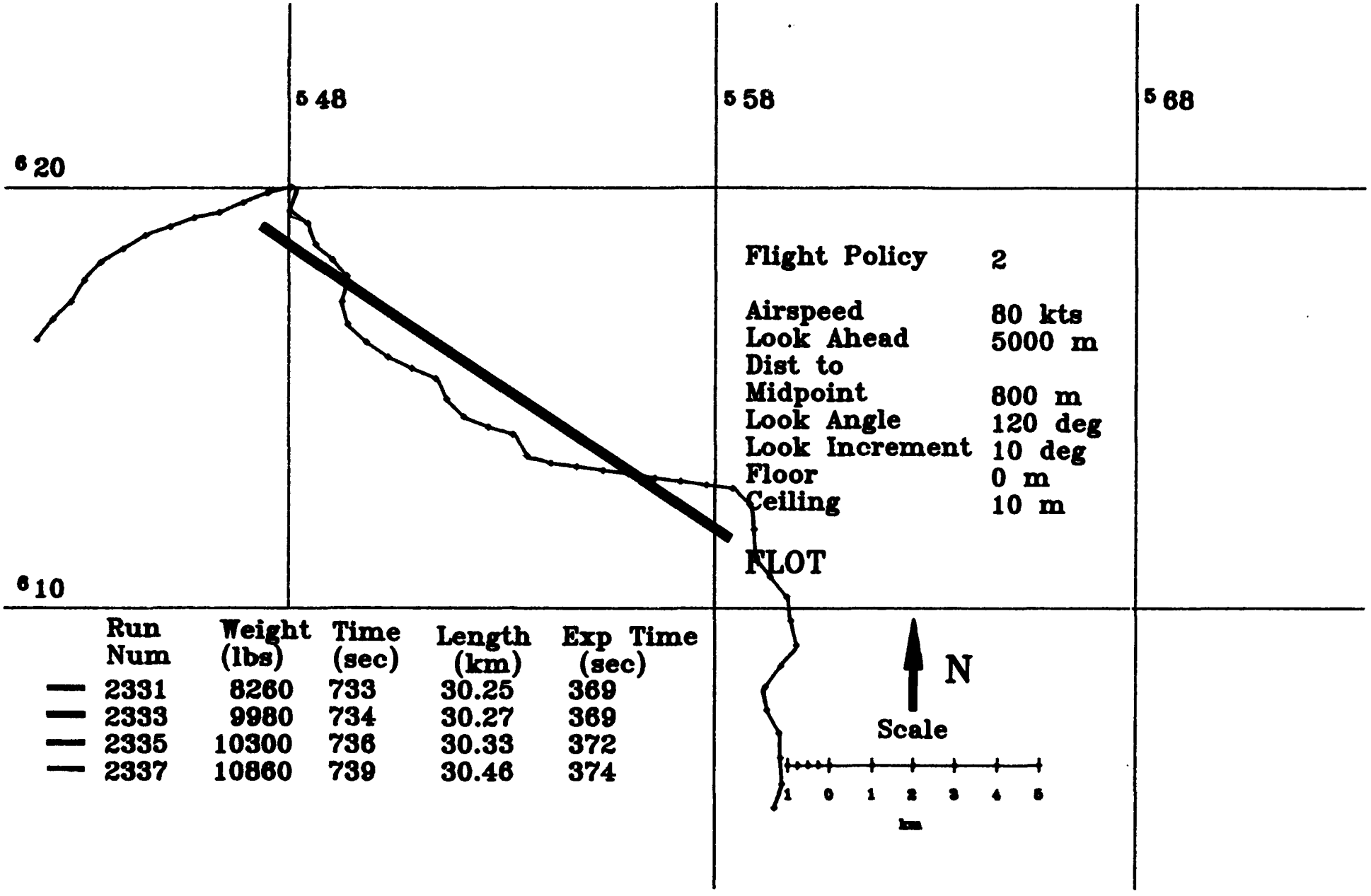


Figure 22. Constrained runs, flight 3 (Sheet 1 of 4)



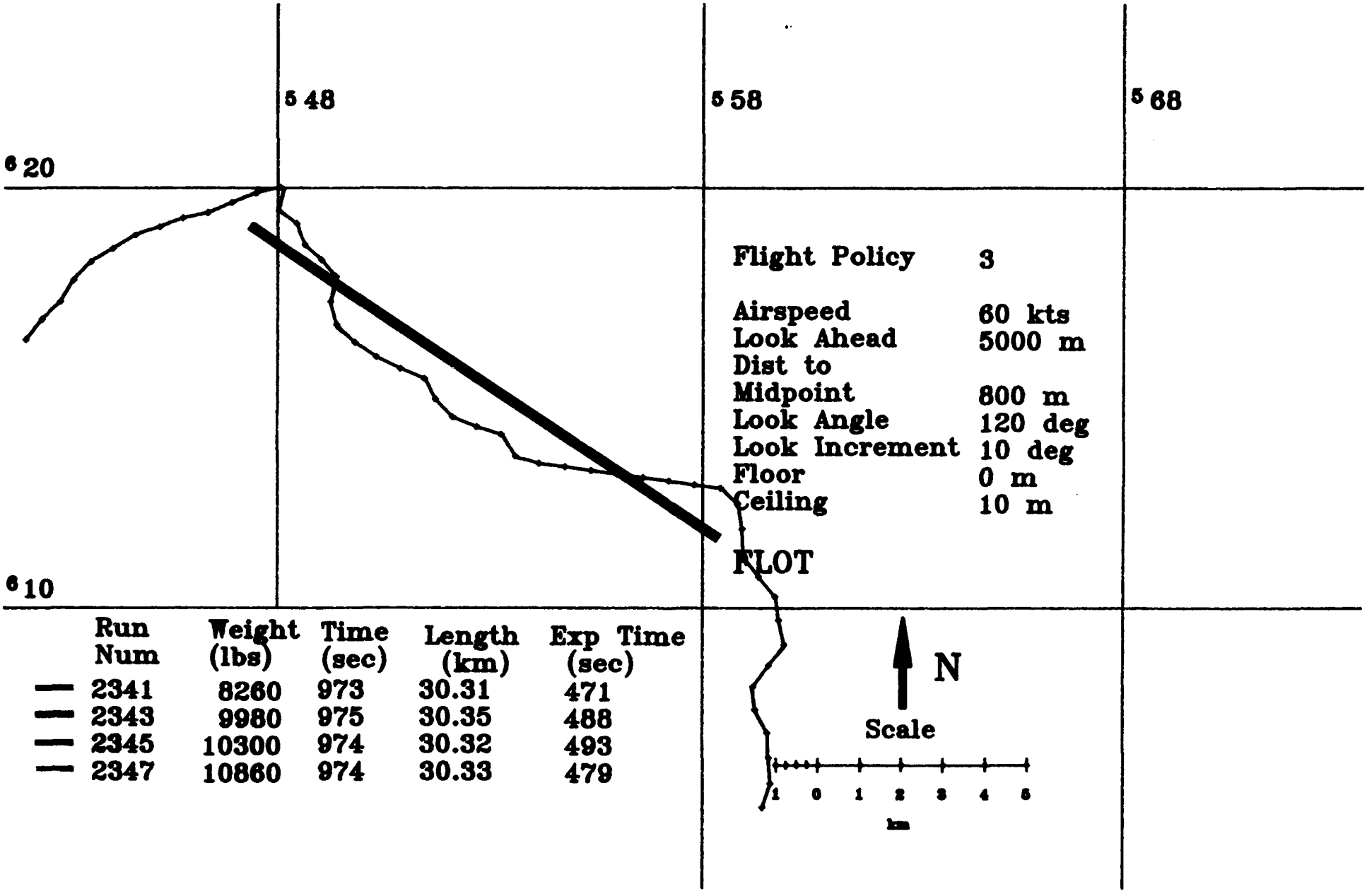
Run Num	Weight (lbs)	Time (sec)	Length (km)	Exp Time (sec)
2311	8260	496	30.41	246
2313	9980	518	31.45	268
2315	10300	518	31.40	275
2317	10860	524	31.52	273

Figure 22. (Sheet 2 of 4)



Run Num	Weight (lbs)	Time (sec)	Length (km)	Exp Time (sec)
2331	8260	733	30.25	369
2333	9980	734	30.27	369
2335	10300	736	30.33	372
2337	10860	739	30.46	374

Figure 22. (Sheet 3 of 4)



Run Num	Weight (lbs)	Time (sec)	Length (km)	Exp Time (sec)
2341	8260	973	30.31	471
2343	9980	975	30.35	488
2345	10300	974	30.32	493
2347	10860	974	30.33	479

Figure 22. (Sheet 4 of 4)

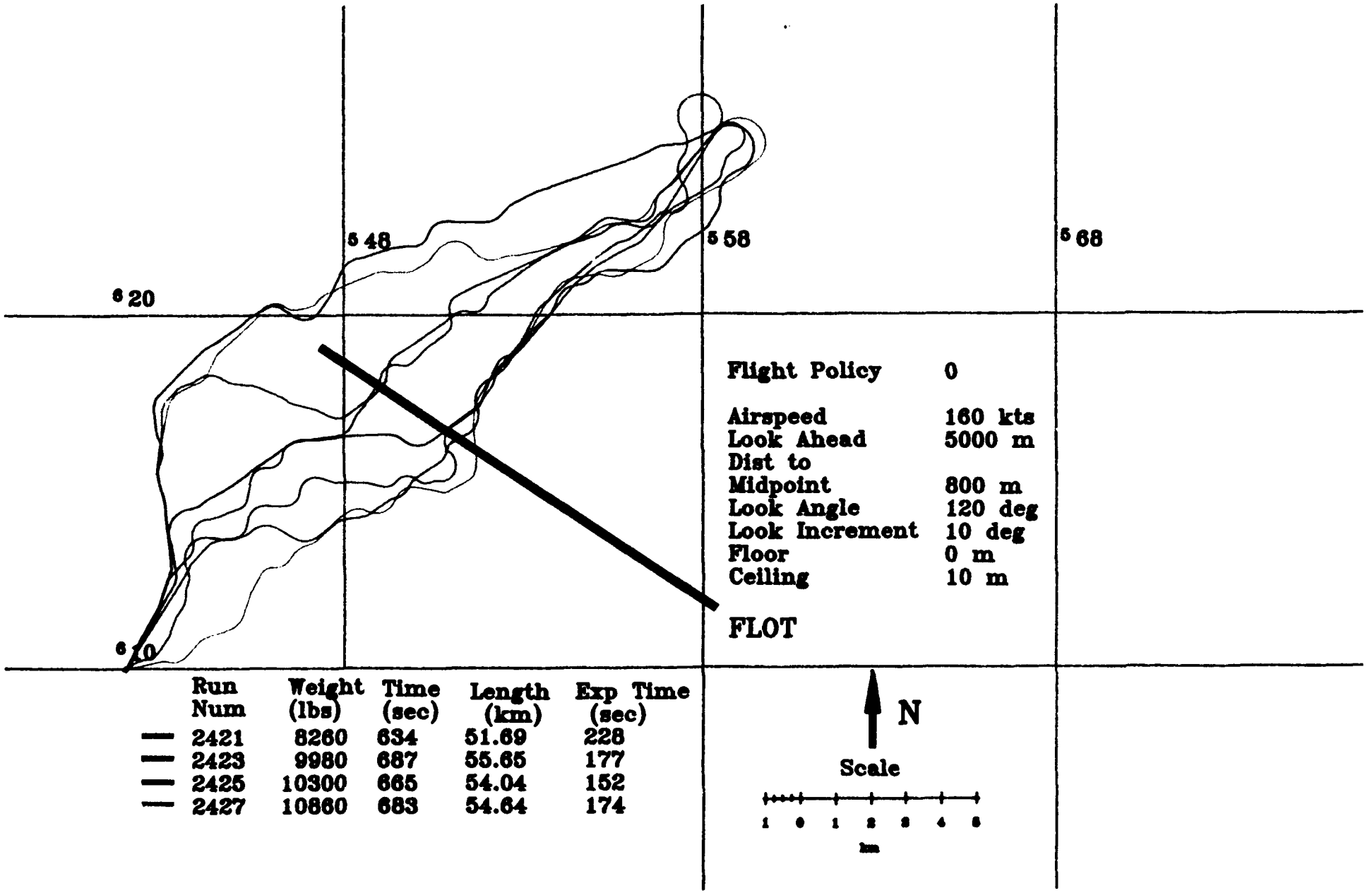


Figure 23. Flight across FLOT (Sheet 1 of 4)

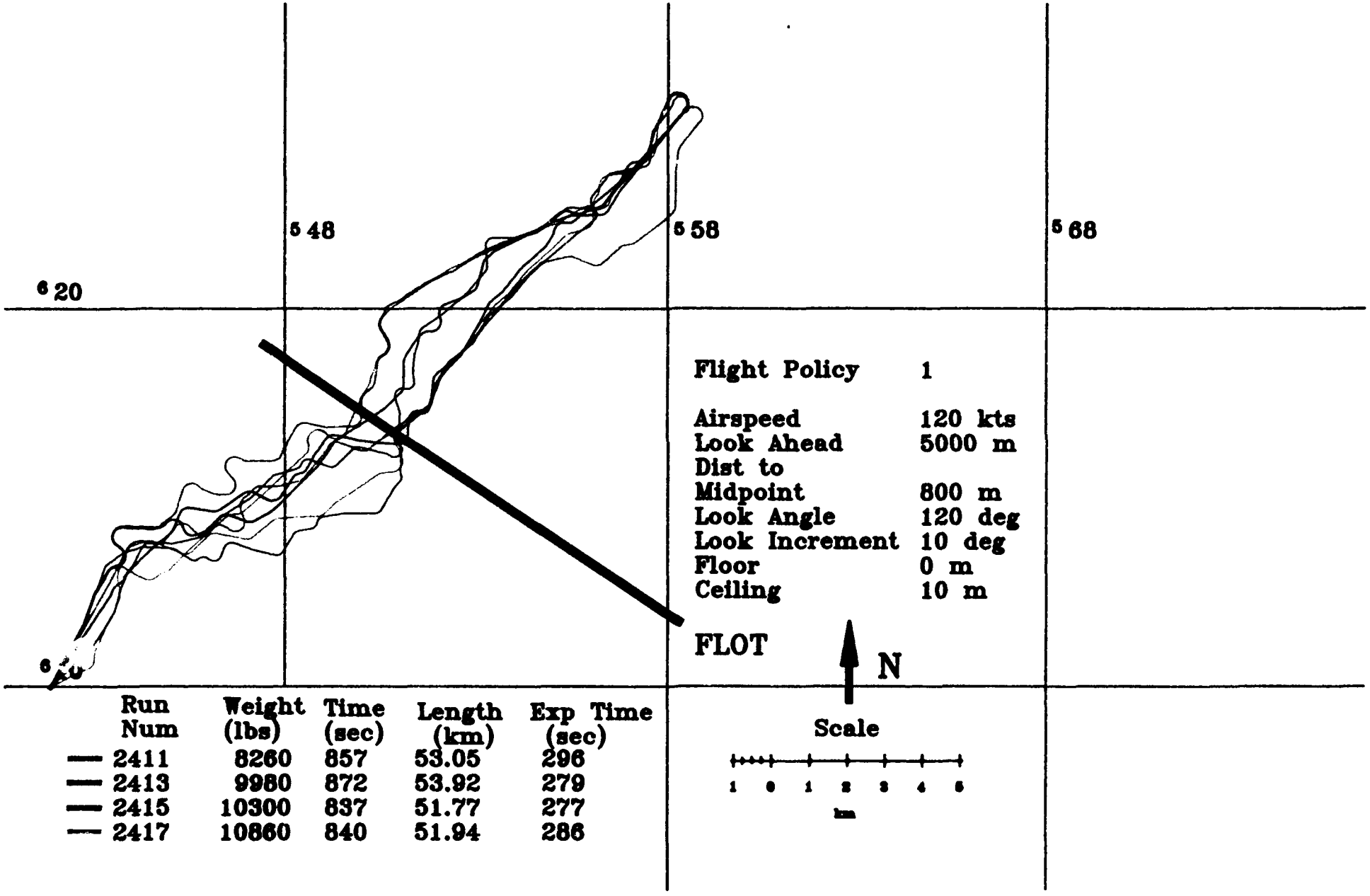


Figure 23. (Sheet 2 of 4)

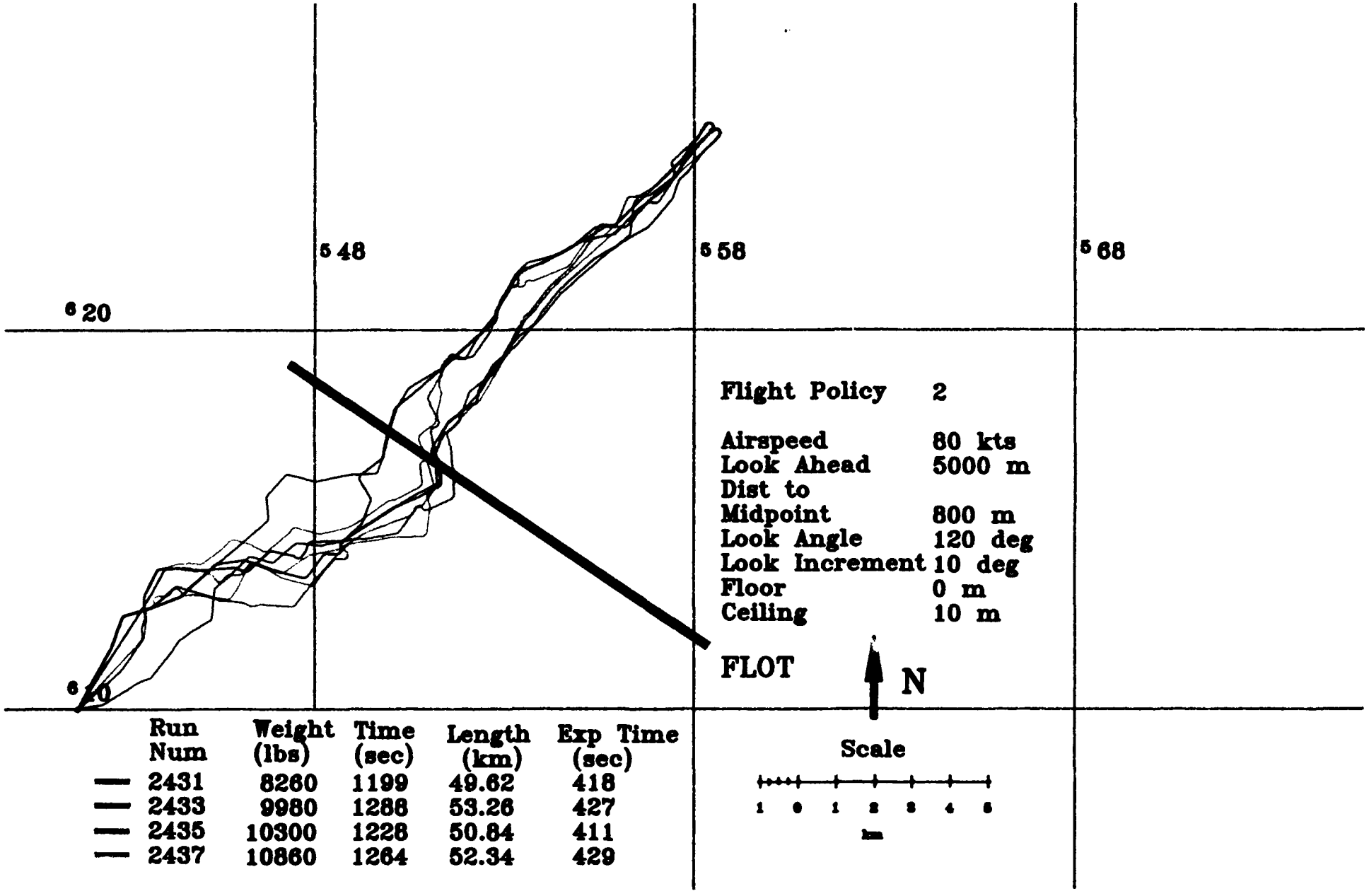


Figure 23. (Sheet 3 of 4)

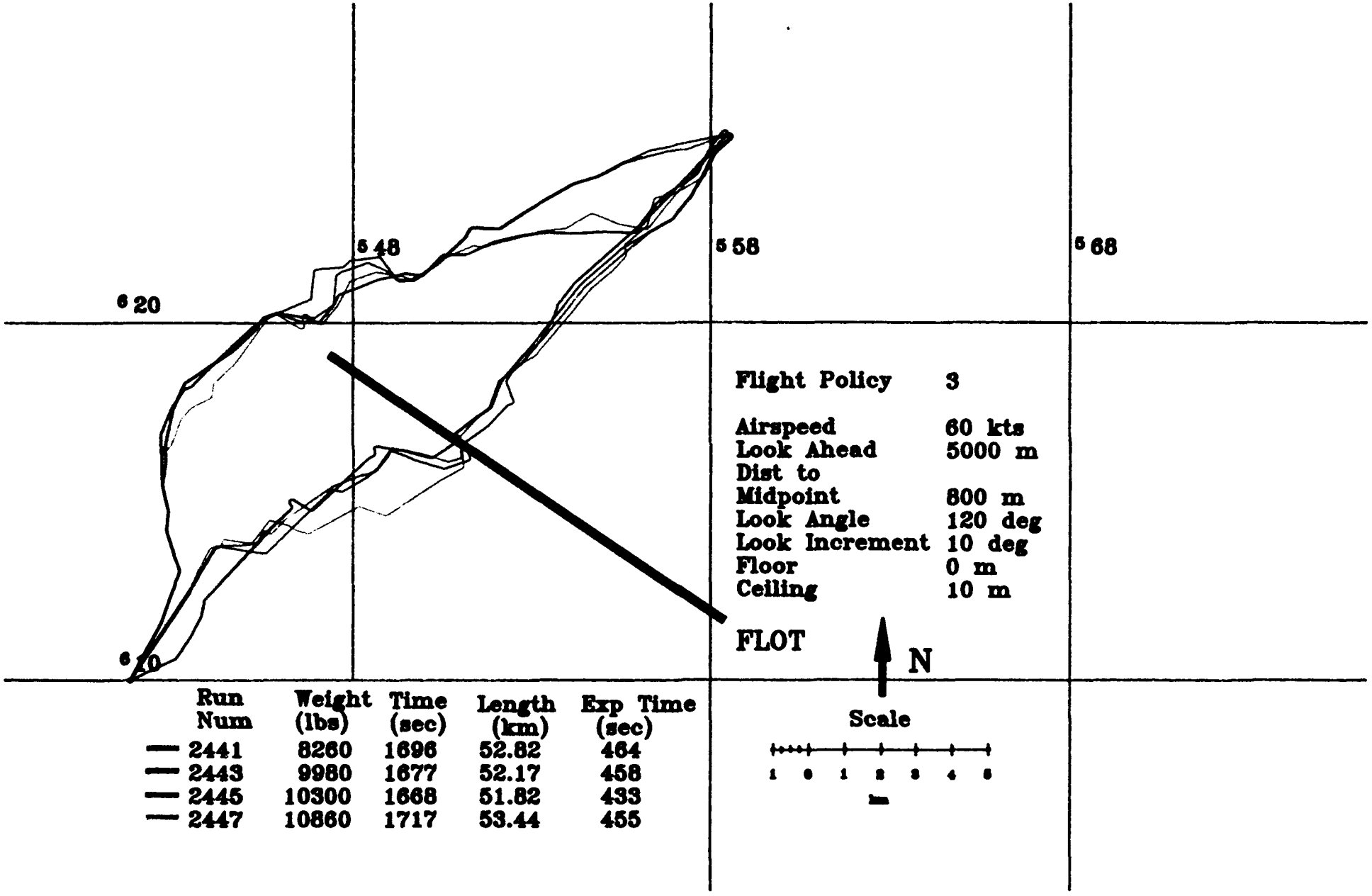


Figure 23. (Sheet 4 of 4)

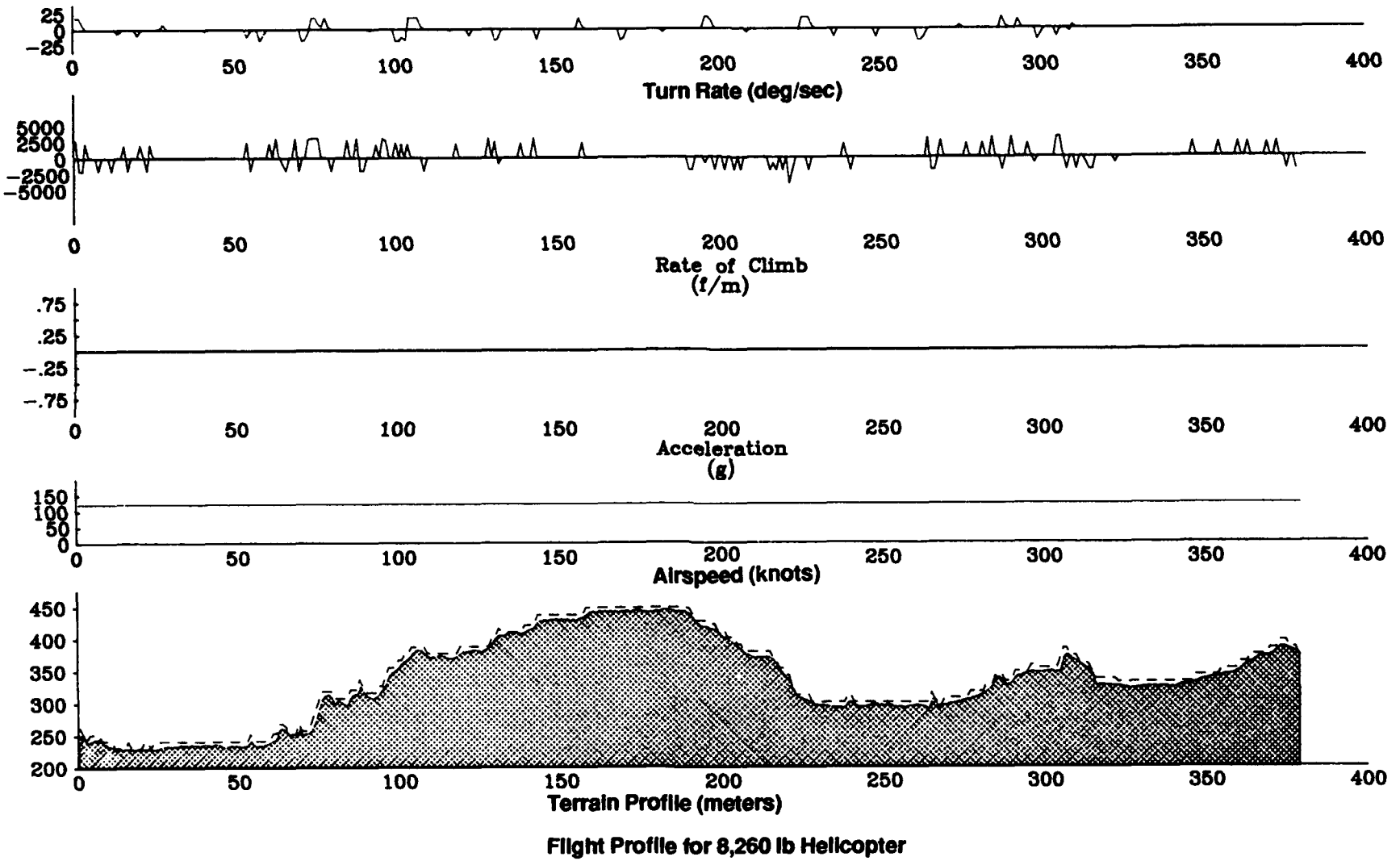


Figure 24. Effect of weight on exposure time, flight time, or flight length (Sheet 1 of 4)

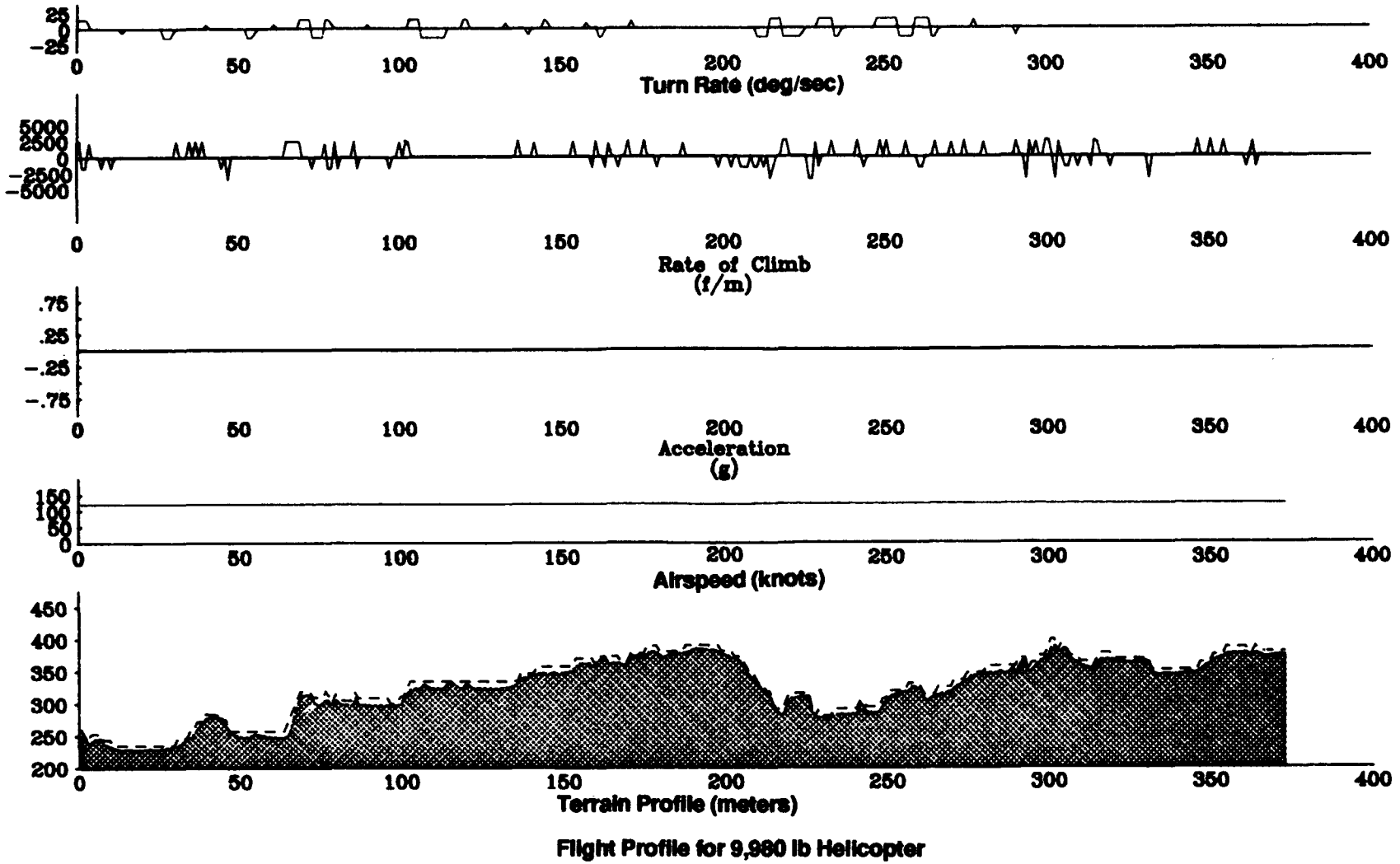


Figure 24. (Sheet 2 of 4)

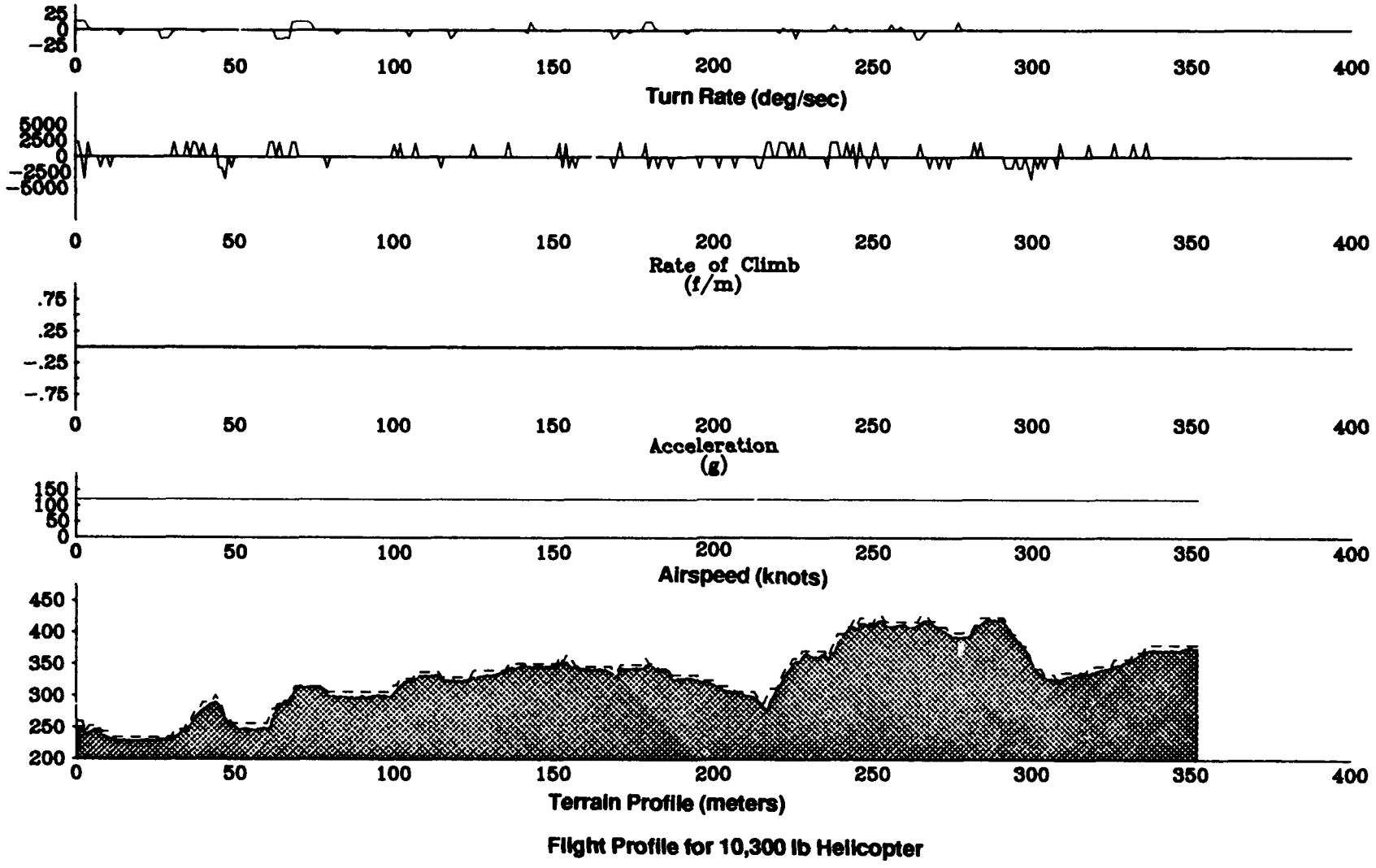


Figure 24. (Sheet 3 of 4)

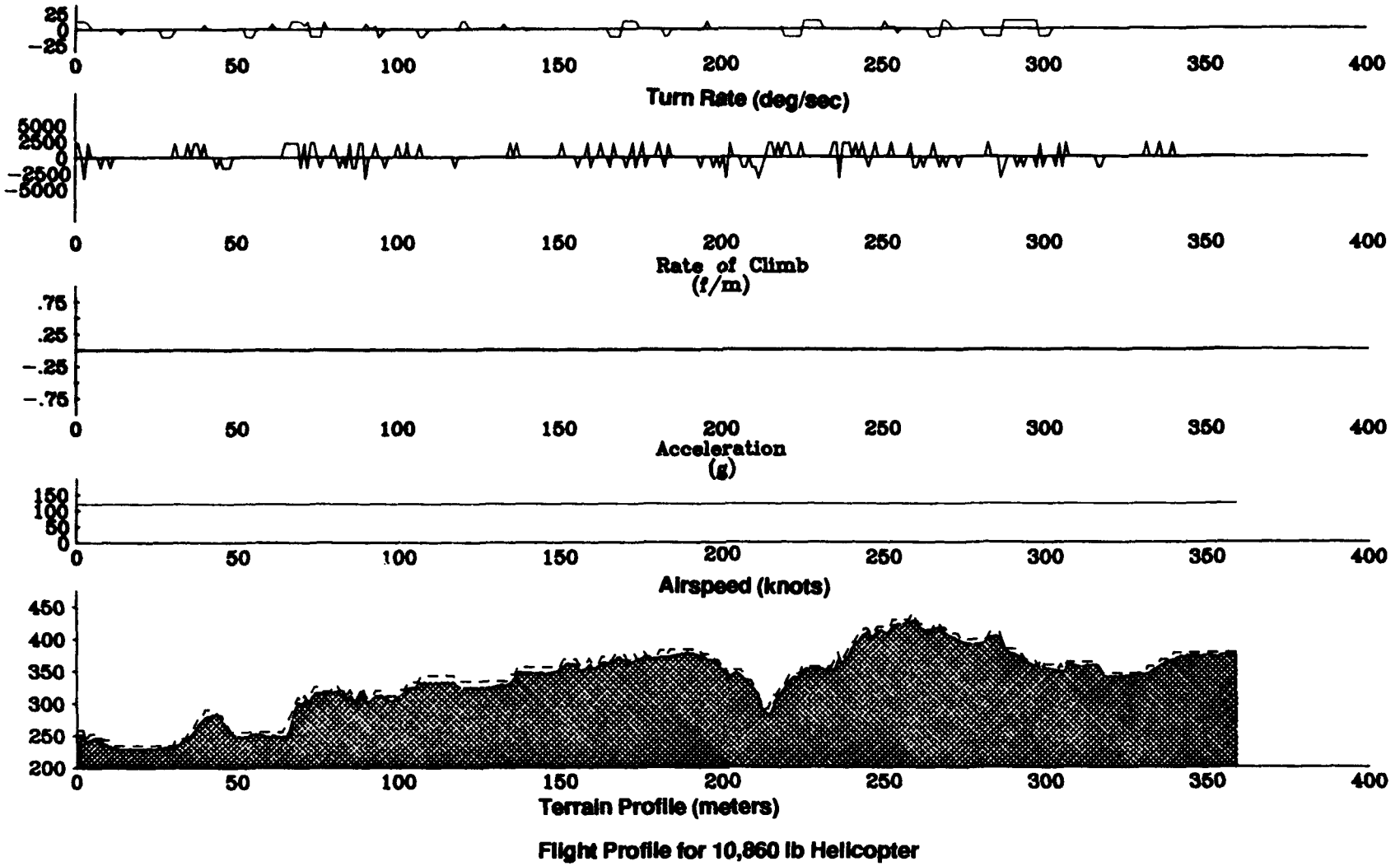


Figure 24. (Sheet 4 of 4)

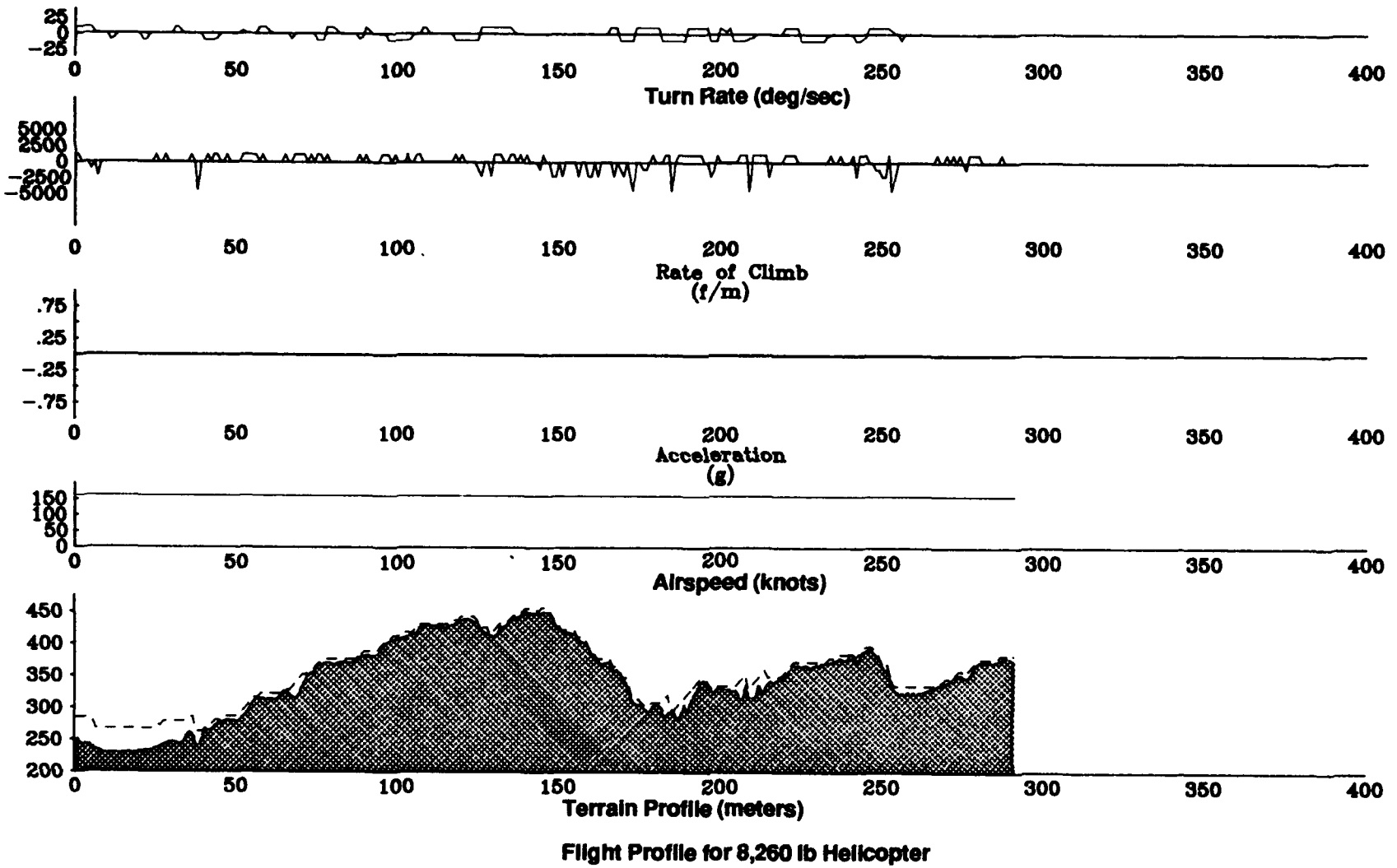


Figure 25. Exposure time, flight time, and flight length analyses for heavier weight helicopters (Sheet 1 of 4)

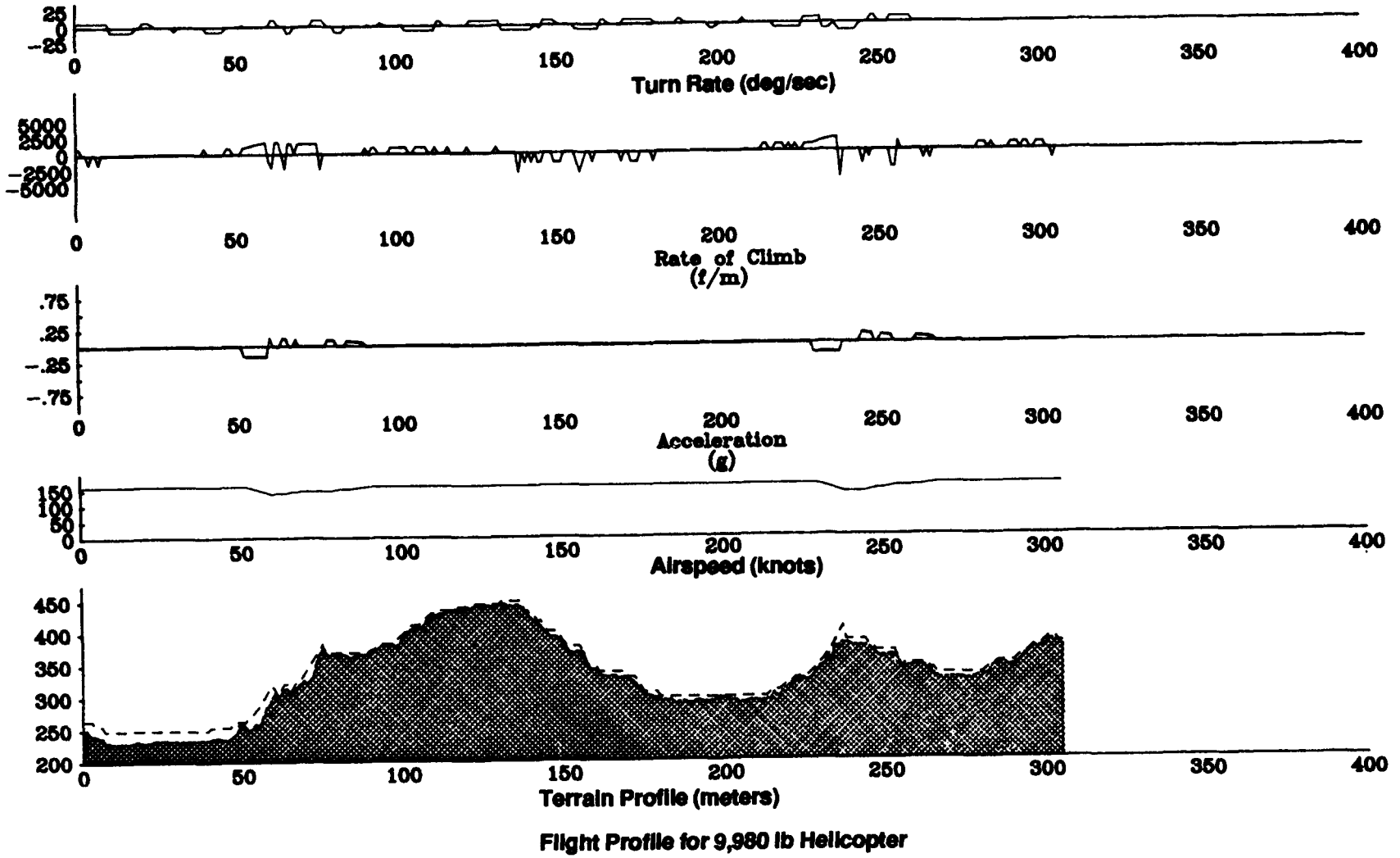


Figure 25. (Sheet 2 of 4)

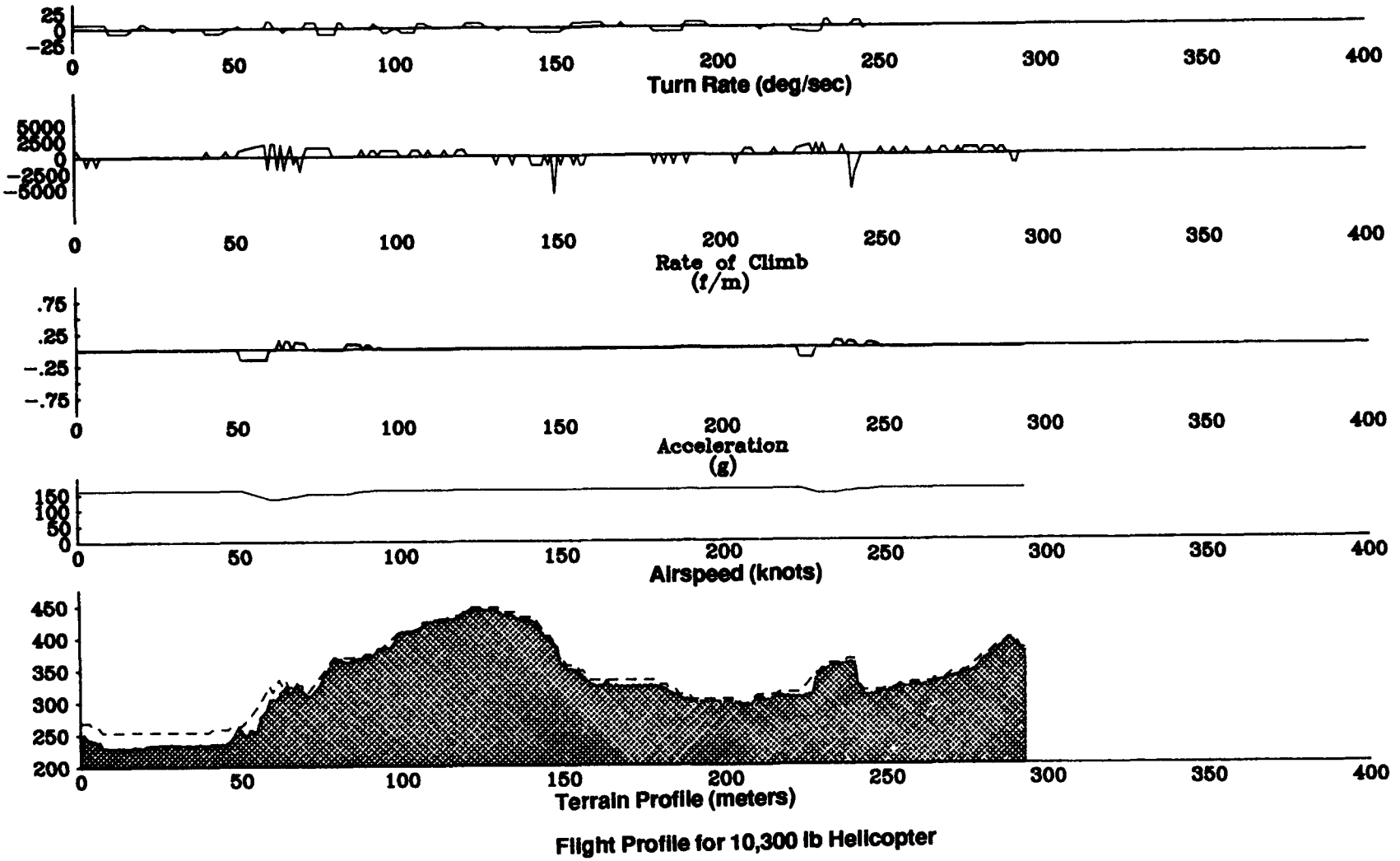


Figure 25. (Sheet 3 of 4)

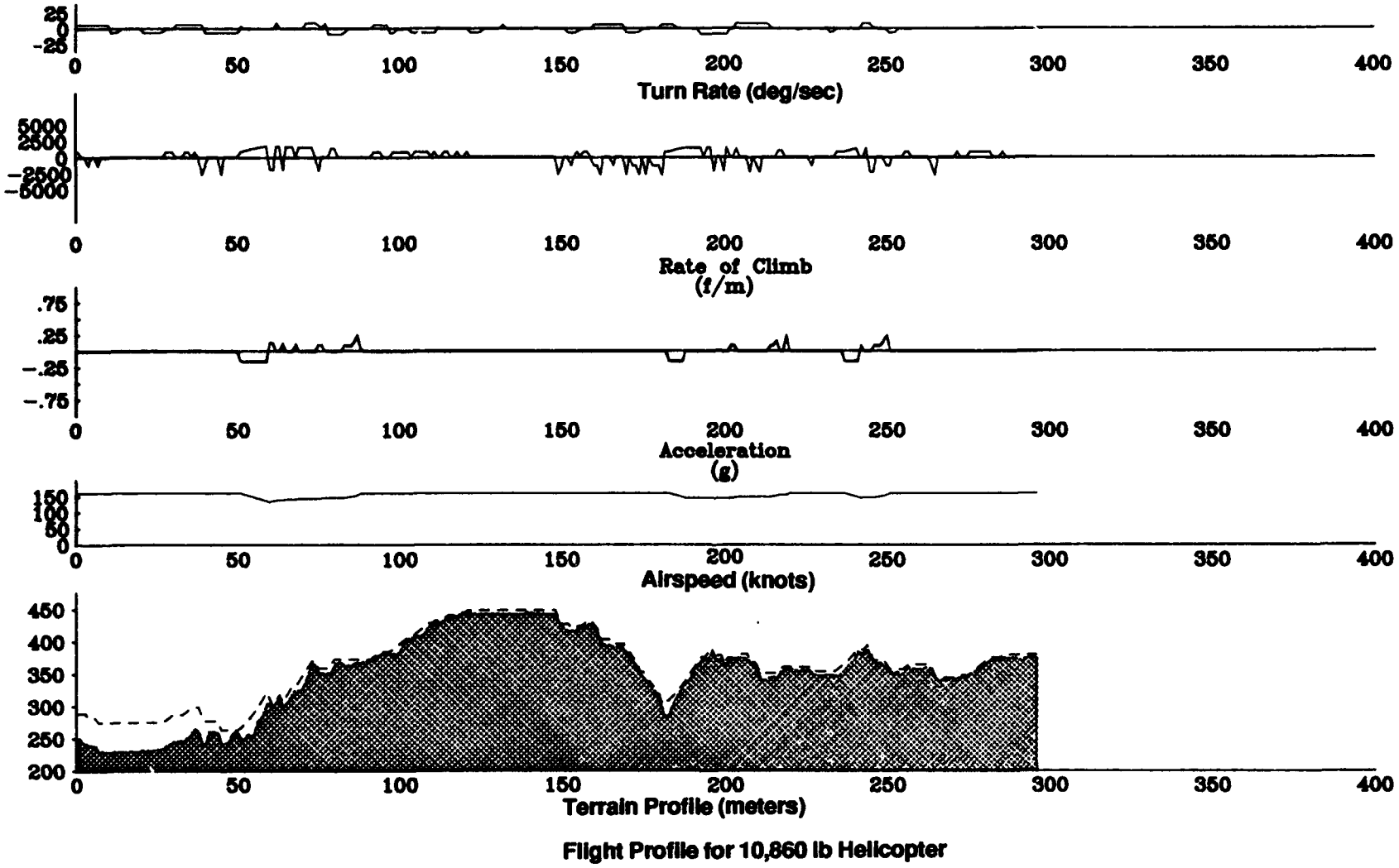


Figure 25. (Sheet 4 of 4)

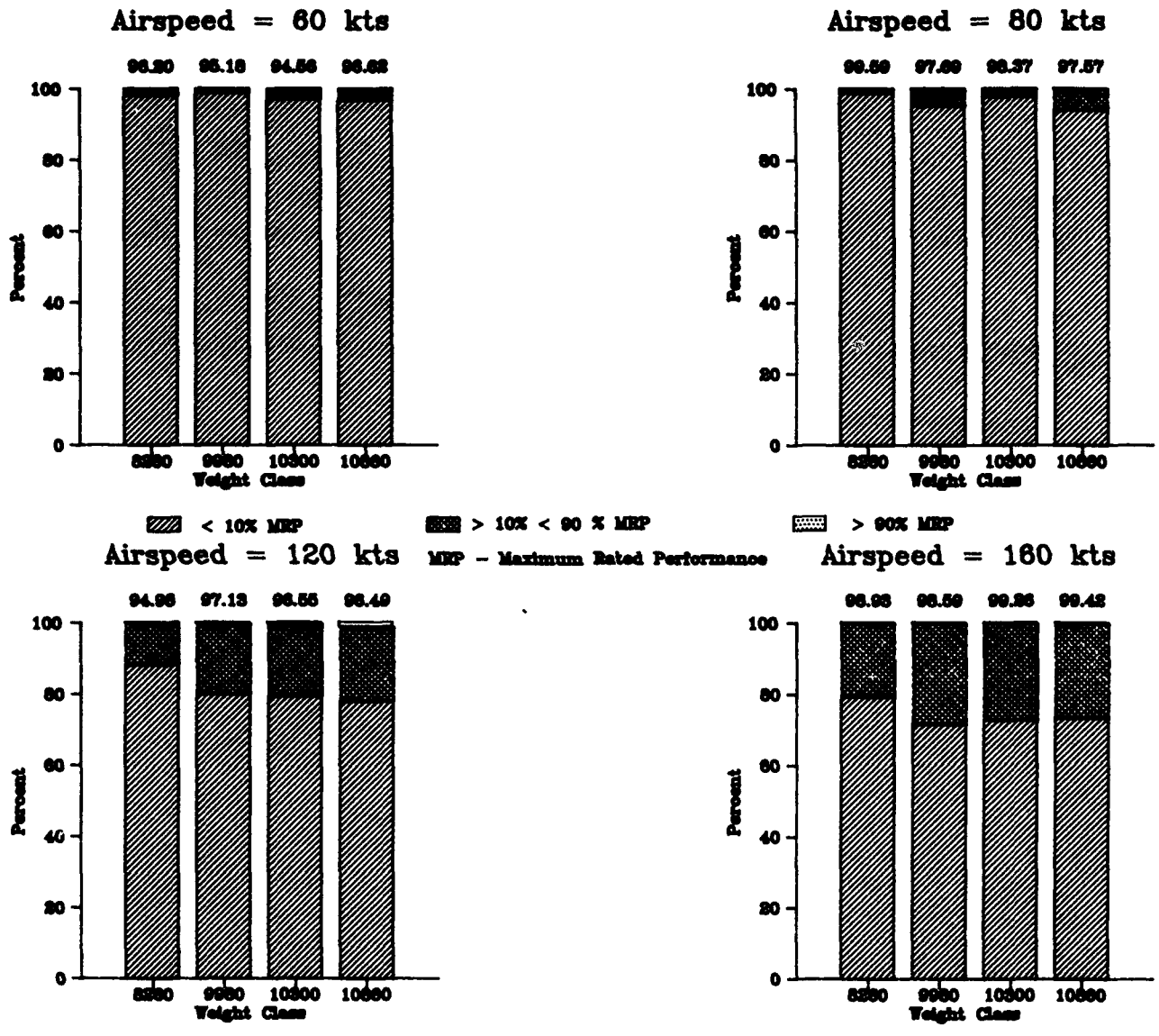


Figure 26. Constrained run turn rate

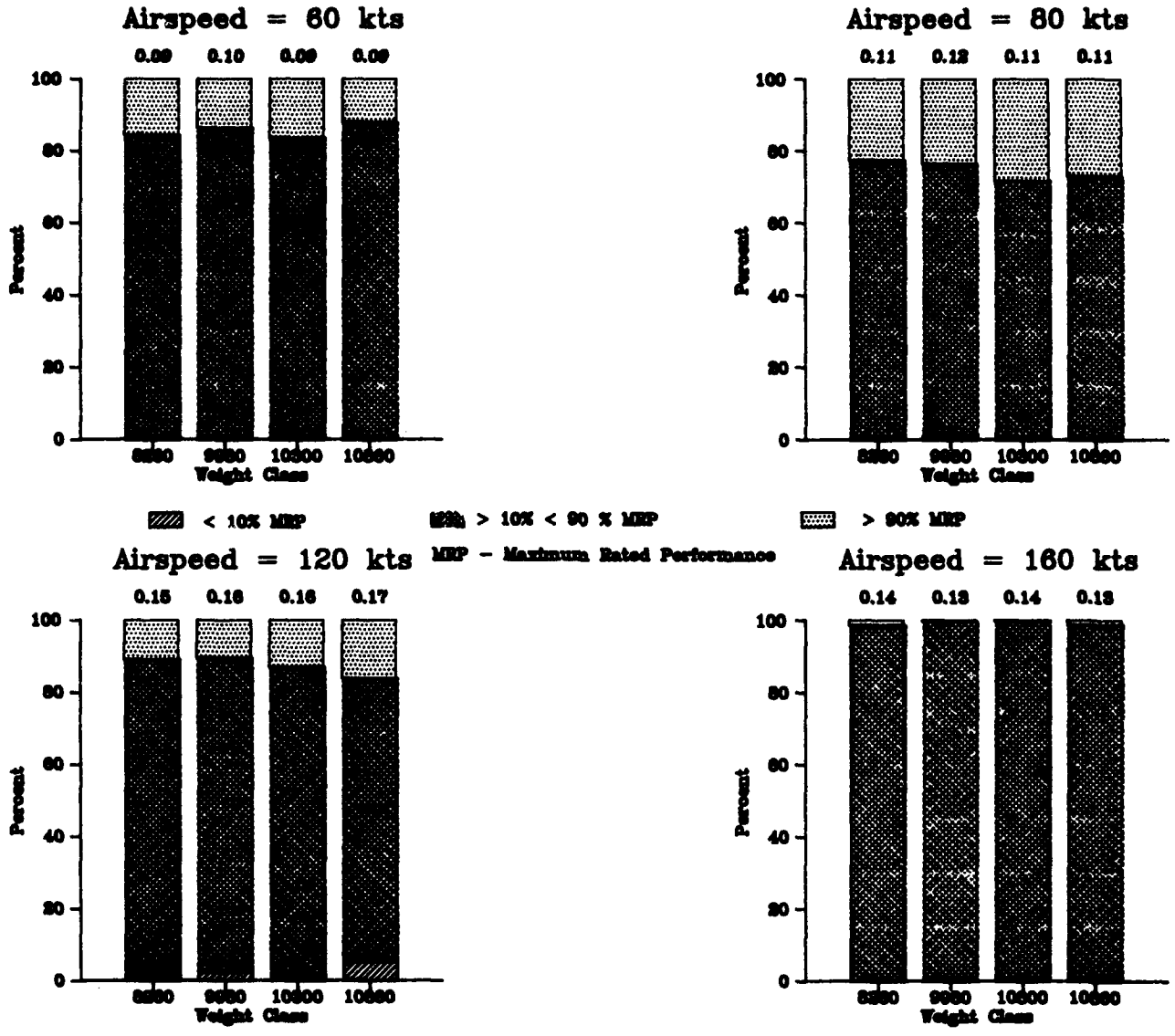


Figure 27. Constrained run descent rate

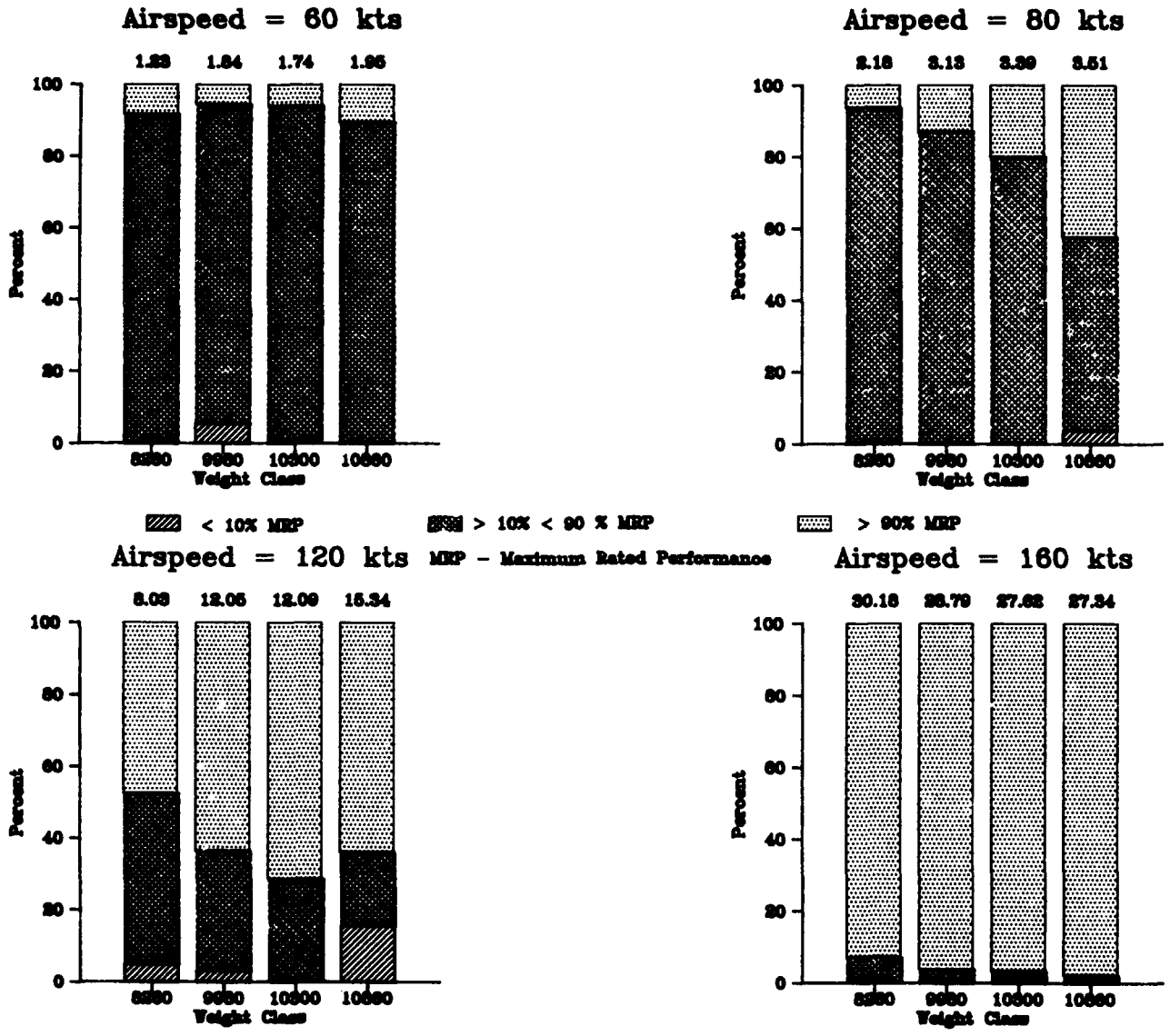


Figure 28. Constrained run acceleration

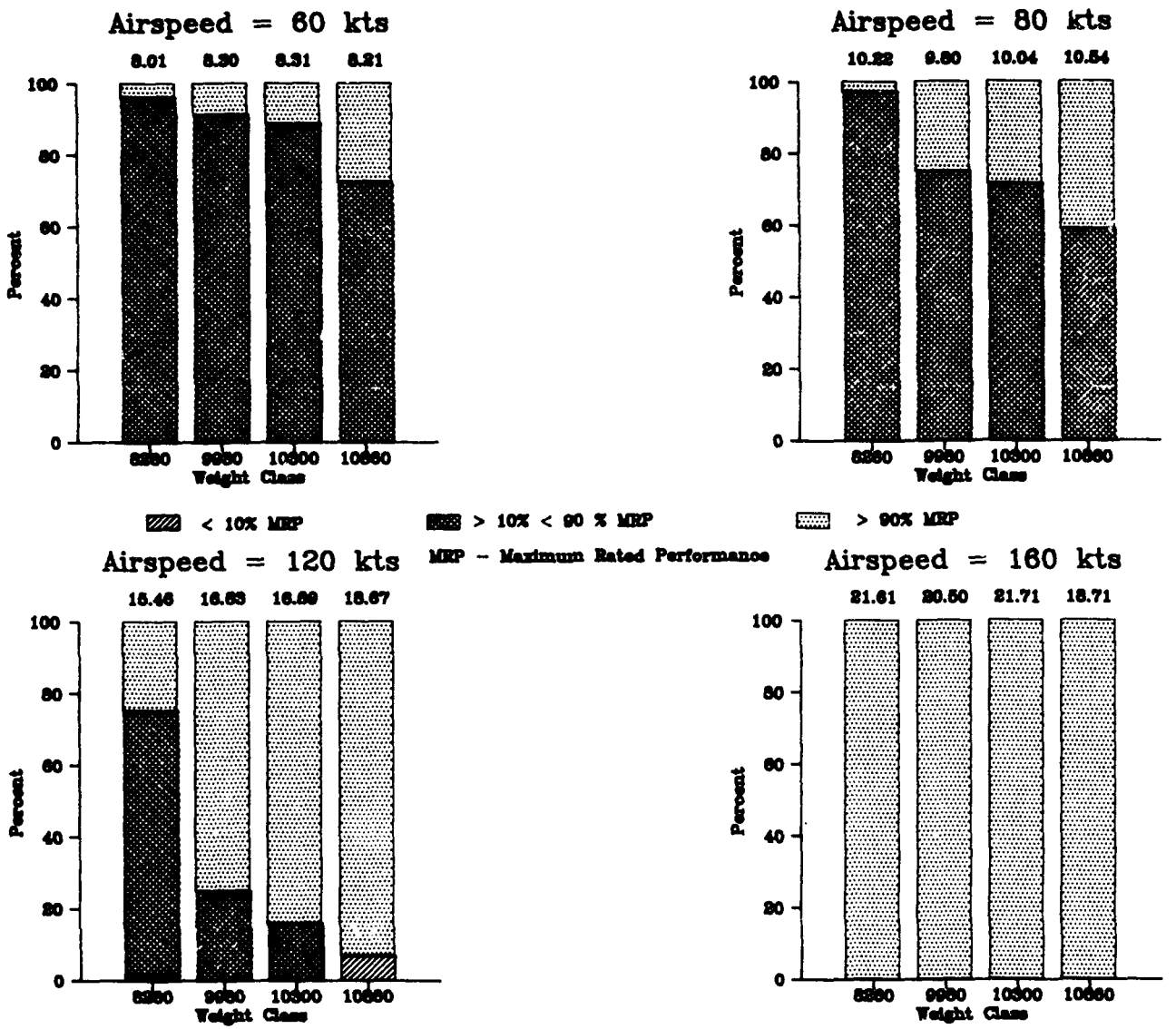


Figure 29. Constrained run climb rate

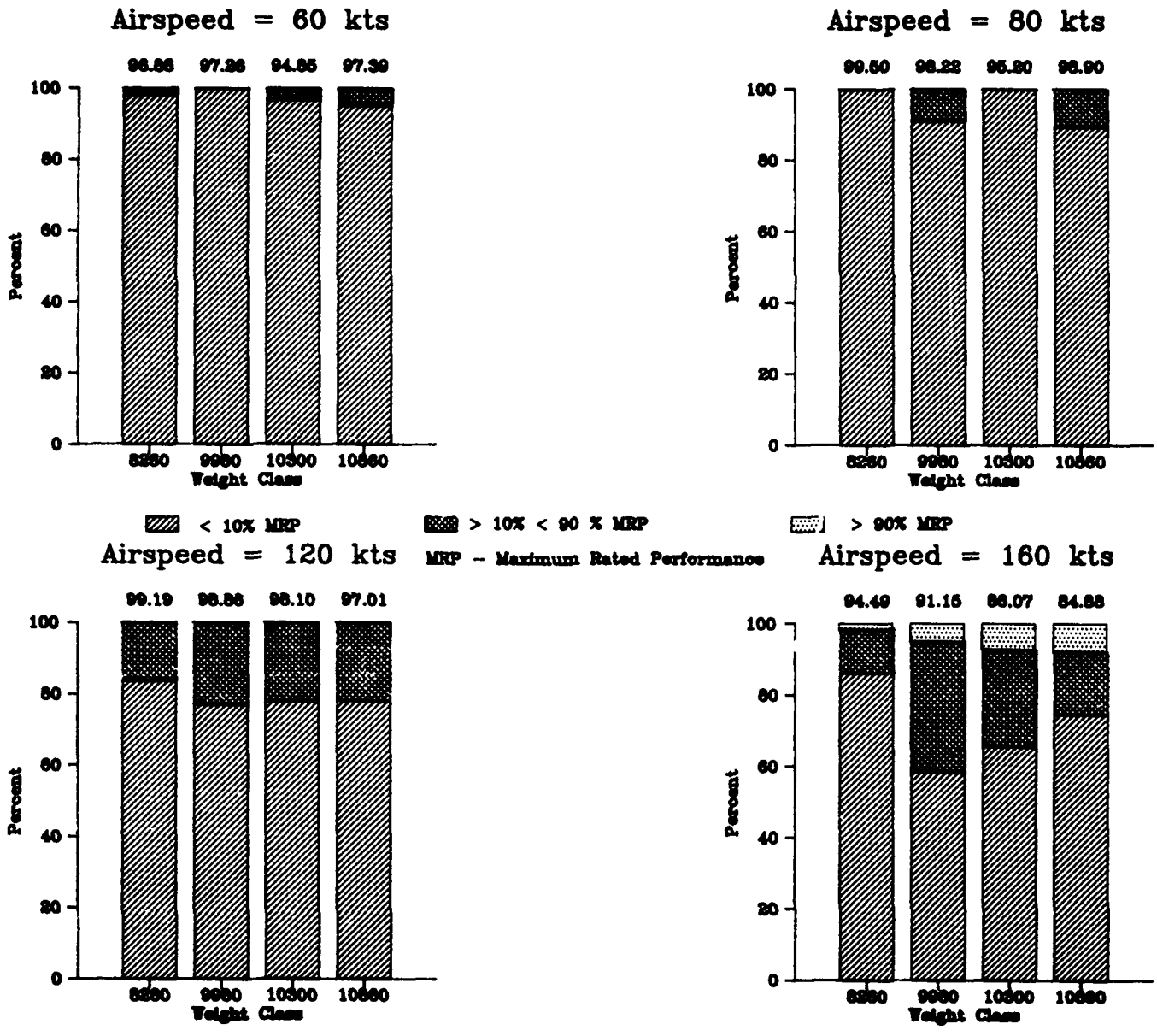


Figure 30. Flight across FLOT turn rate

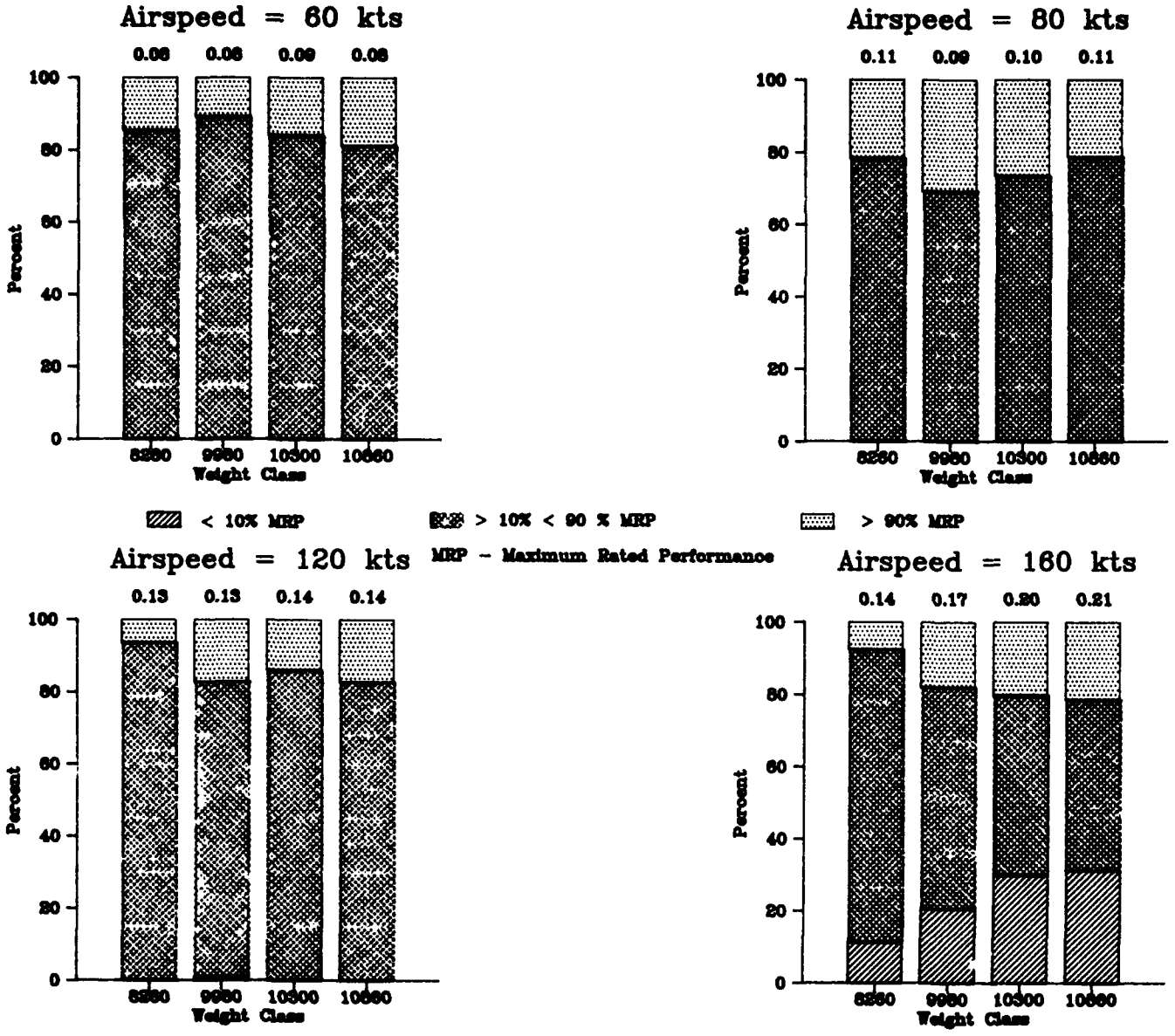


Figure 31. Flight across FLOT descent rate

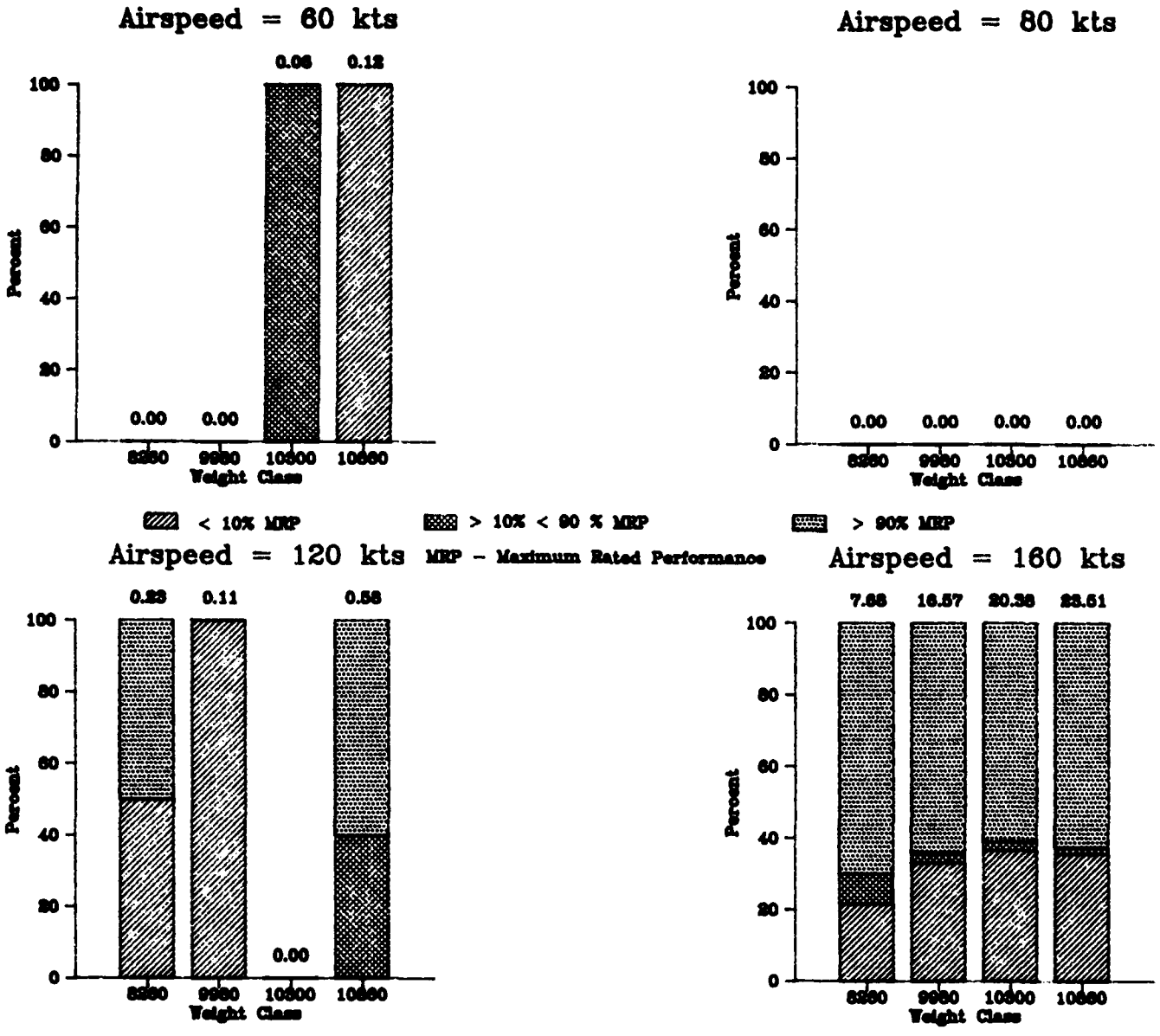


Figure 32. Flight across FLOT acceleration

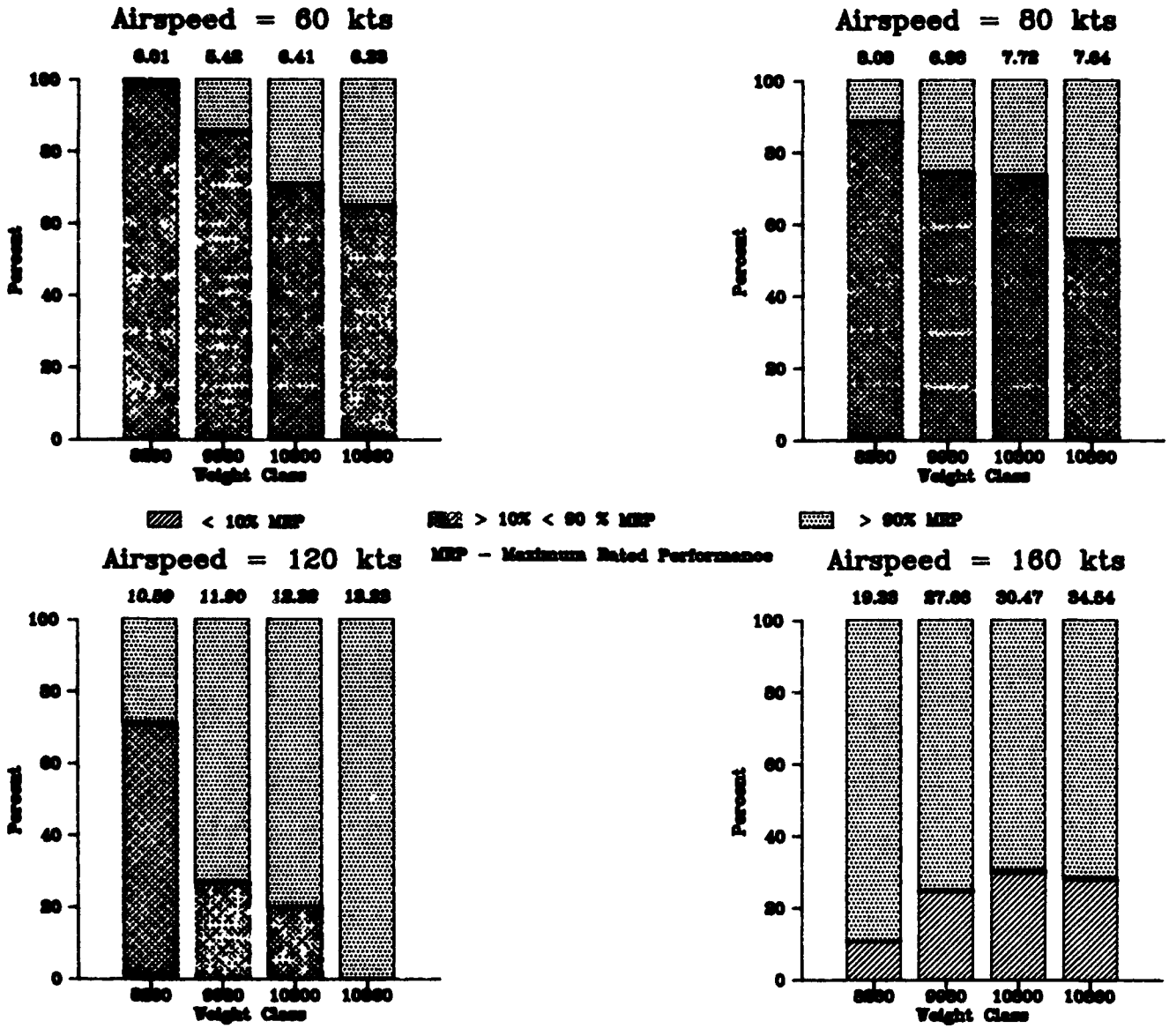


Figure 33. Flight across FLOT rate of climb

APPENDIX A: WEAPON DATA

WEAPON CHARACTERISTICS

	WEAPON CLASS									
	1	2	3	4	5	6	7	8	9	10
RANGE, METER	2500	4000	2000	5800	6500	11000	3500	4500	5000	8000
MAX ELE ANG, MILES	1545	1550	1334	1422	1565	480	1245	1245	1245	640
MIN ELE ANG, MILES	-89	89	-107	-89	-53	480	178	178	178	178
HT ABV GND, DECIMETERS	31	33	22	33	31	37	20	20	20	30
STD DEV-SYS	5	4	5	2	2	1	3	2	1	1
KILL PROB	0.50	0.85	0.80	0.99	0.99	0.99	0.99	0.99	0.99	0.99
#RNDS-SHT BRST	50	20	20	1	1	1	1	1	1	1
# RNDS-LNG BRST	100	150	100	1-2	1-2	1-2	1	1	1	1-2
ACQ TIME, SEC	10	8	10	9	9	12	8	8	8	6
ACQ RANGE, METER	12000	15000	4000	6500	8000	20000	4000	4000	4000	15000

BALLISTIC TABLE

WEAPON CLASS 1

TIME (SEC)	RANGE (m)	ELEVATION 15° ELEVATION (0.1 mils)
0	0	0
1	750	166
2	1250	292
3	1708	355
4	2250	428
5	2500	500
6	2718	510
7	2932	520
8	3150	530
9	3364	540
10	3584	542
11	3792	540

WEAPON CLASS 2 & 3

TIME	RANGE (m)
0	0
1	1000
2	1700
3	2250
4	2650
5	3050
6	3400
7	3750
8	4000

BALLISTIC TABLE

WEAPON CLASS 4

TIME (SEC)	RANGE (m)	TIME (SEC)	RANGE (m)
0	0	9	3750
1	104	10	4000
2	416	11	4300
3	956	12	4600
4	1497	13	4900
5	2035	14	5200
6	2575	15	5500
7	3115	16	5800
8	3500		

BALLISTIC TABLE

WEAPON CLASS 5

TIME (SEC)	RANGE (m)
0	0
1	130
2	515
3	1215
4	1920
5	2625
6	3322
7	4720
8	5420
9	6122
10	6820

BALLISTIC TABLE

WEAPON CLASS 6 & 10

TIME (SEC)	RANGE (m)	ELEVATION	TIME (SEC)	RANGE (m)	ELEVATION
0	0	20	10	4300	4
1	105	20	11	4850	3
2	422	5	12	5428	2
3	900	5	13	6000	1
4	1350	5	14	6503	0
5	1800	5	15	7000	−1
6	2250	4	16	7501	−1
7	2700	3	17	8000	−1
8	3200	5	18	8525	−1
9	3750	5	19	9050	0

BALLISTIC TABLE

WEAPON CLASS 7

TIME (SEC)	RANGE (m)	ELEVATION (0.1 mils)
0	0	0
1	200	2
2	600	4
3	1100	6
4	1620	8
5	2140	10
6	2660	12
7	3180	14
8	3700	16
9	4000	18

BALLISTIC TABLE

WEAPON CLASS 8

TIME (SEC)	RANGE (m)	ELEVATION (0.1 mils)
0	0	0
1	250	2
2	720	4
3	1240	6
4	1760	8
5	2280	10
6	2800	12
7	3320	14
8	3840	16
9	4360	18

BALLISTIC TABLE

WEAPON CLASS 9

TIME (SEC)	RANGE (m)	ELEVATION (0.1 mils)
0	0	0
1	150	2
2	500	4
3	1100	6
4	1700	8
5	2250	10
6	2800	12
7	3350	14
8	3900	16
9	4500	18
10	5050	20
11	5550	22
12	6000	24

APPENDIX B: FLIGHT PERFORMANCE DATA

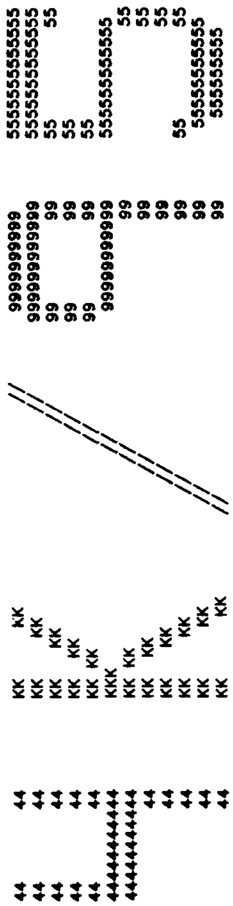
3-JUL-89
ARTA

Maneuvering Flight Performance Data for the LHX COEA (The "HL92" Configuration)*

Configuration/Weight	Description: Longbow Status	Description: External Stores Status	Gross Weight - lb	Drag Increment - ft**2
Minimum Operating Weight	None	None ("CLEAN")	8260	2.2
Primary Mission Gross Weight (PMGW)	None	None	9980	2.2
Attack Mission Gross Weight (AMGW)	None	None	10300	2.2
Max Operating Weight	None	None	10860	2.2
Min Operating Weight	None	Installed, but Empty	9280	3.8
Max Operating Weight	None	Installed, and Full	11450	3.8
Minimum Operating Weight	Installed	None	8600	8.2
Primary Mission Configuration	Installed	None	10380	8.2
Min Operating Weight	Installed	Installed, but Empty	9620	9.8
Max Alternate Gross Weight (MAGW)	Installed	Installed, and Full	11790	9.8

Atmospheric Conditions: 4000 ft / 95 deg-F (4K/95); 2000 ft / 70 deg-F (2K/70); 0 ft / 59 deg-F (SLS)

* Obtained from US Army Aviation Research and Technology Activity (ARTA), California.



CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MININUM OPERATING WEIGHT W/O LONGBOW [WITH EXT STORES]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:36:28 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 9280. LB; DQB = 3.80 FT**2; . ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	177.2
TOTAL HPREQ	1521.5	1284.2	1013.8	838.4	777.6	776.4	803.5	919.7	1143.6	1303.9	1499.2	1745.6	1976.9
IFUS,DEG	0.44	1.12	1.19	0.95	0.44	0.28	-0.24	-1.10	-2.12	-2.67	-3.23	-3.84	-4.33

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	177.4
VKTS,KT	15.0	32.0	49.0	66.9	85.1	89.7	103.6	122.3	141.1	150.7	160.3	170.1	177.4
VCLMB,FT/MN	1516.	2536.	2870.	2999.	2930.	2891.	2726.	2369.	1791.	1418.	980.	466.	0.
GAMMA,DEG	90.0	51.4	35.3	26.3	19.9	18.6	15.1	11.0	7.2	5.3	3.5	1.6	0.0
IFUS,DEG	-0.33	-0.61	-1.32	-1.69	-1.41	-1.20	-0.09	0.00	-1.12	-1.82	-2.62	-3.53	-4.34

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0
VKTS,KT	52.6	66.9	85.0	89.8	104.7	125.3	147.1	158.6	171.0	185.6	207.2
VCLMB,FT/MN	-3452.	-3007.	-2918.	-2937.	-3130.	-3655.	-4562.	-5224.	-6108.	-7553.	-10394.
GAMMA,DEG	-40.4	-26.3	-19.8	-18.8	-17.2	-16.7	-17.8	-19.0	-20.7	-23.7	-29.7
IFUS,DEG	1.31	-0.64	-3.25	-3.89	-5.11	-7.05	-9.54	-11.12	-13.08	-16.08	-21.64

POWER-LIMITED TURN CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	177.3
AY,G	0.5662	0.8276	1.0908	1.3348	1.4635	1.4854	1.5309	1.5158	1.3972	1.2891	1.1274	0.8457	0.0000
NZ,G	1.1492	1.2980	1.4799	1.6678	1.7726	1.7906	1.8286	1.8160	1.7182	1.6315	1.5070	1.3097	1.0000
RADIUS,FT	0.0	42.8	129.9	238.8	387.2	430.7	578.3	841.1	1242.0	1545.4	2010.6	3025.7	0.0
RATE,D/S	0.00	45.20	29.79	24.30	19.98	19.09	16.72	13.80	10.90	9.39	7.70	5.43	0.00
PHI,DEG	29.52	39.61	47.49	53.16	55.66	56.05	56.85	56.59	54.42	52.22	48.45	40.26	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	177.3
AX,G	0.5662	0.6058	0.5364	0.4470	0.3528	0.3309	0.2704	0.1979	0.1287	0.0950	0.0612	0.0272	0.0001
IFUS,DEG	-29.70	-31.16	-28.63	-24.97	-20.36	-19.12	-15.12	-11.11	-8.38	-7.19	-6.09	-5.09	-4.34

HORIZONTAL DECELERATION CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2618	-0.2512	-0.2576	-0.2780	-0.3147	-0.3260	-0.3118	-0.2936	-0.3032	-0.3156	-0.3322	-0.3538	-0.3849	-0.4212
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.84	10.14	8.61	8.10	7.72	7.45	7.39	7.40

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4425	2.4285	2.3415	2.2467	2.1206	2.0534	1.9872	1.9226	1.8604	1.8007
PHI,DEG	65.09	65.09	64.46	63.46	61.79	60.79	59.72	58.58	57.37	56.10
PSI,DEG	16.64	13.11	6.83	3.04	1.40	0.91	0.58	0.41	0.39	0.45
RADIUS,FT	277.4	306.8	426.8	638.0	931.4	1114.1	1323.7	1563.4	1836.6	2147.8
RATE,D/S	27.89	26.80	22.66	18.19	14.54	13.02	11.69	10.52	9.48	8.55
XF-WIND,LB	-8256.	-6877.	-3930.	-2166.	-1467.	-1291.	-1213.	-1232.	-1355.	-1549.
AX,G	-0.8897	-0.7410	-0.4235	-0.2334	-0.1580	-0.1391	-0.1307	-0.1328	-0.1460	-0.1670

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4968	2.4215	2.3407	2.2325	2.1696	2.1084	2.0500	1.9956	1.9389
PHI,DEG	64.82	64.62	63.75	62.45	61.60	60.68	59.72	58.71	57.53
PSI,DEG	36.25	23.31	14.84	10.85	9.56	8.52	7.70	7.11	6.64
RADIUS,FT	397.4	467.2	656.2	926.5	1097.1	1291.7	1512.5	1762.5	2053.4
RATE,D/S	20.68	20.70	17.68	14.61	13.22	11.98	10.87	9.88	8.95
XF-WIND,LB	-15087.	-10465.	-7786.	-6398.	-5939.	-5617.	-5412.	-5356.	-5383.
AX,G	-1.6258	-1.1277	-0.8390	-0.6894	-0.6400	-0.6053	-0.5832	-0.5772	-0.5800

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MAX ALTERNATE CONFIGURATION W/O LONGBOW [WITH EXT STORES]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:37:30 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	172.6
TOTAL HPREQ	2148.8	1728.9	1379.5	1118.6	996.4	983.9	983.1	1080.6	1298.4	1455.3	1649.0	1897.2	1972.1
IFUS,DEG	-0.63	0.35	0.61	0.61	0.32	0.21	-0.17	-0.85	-1.70	-2.16	-2.64	-3.18	-3.32

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	172.8
VKTS,KT	20.8	42.4	62.7	82.4	87.3	101.8	121.2	140.5	150.3	160.1	170.0	172.8
VCLMB,FT/MN	586.	1426.	1860.	2000.	2009.	1954.	1688.	1224.	918.	559.	129.	0.
GAMMA,DEG	16.1	19.4	17.0	13.9	13.1	10.9	7.9	4.9	3.5	2.0	0.4	0.0
IFUS,DEG	0.19	-0.03	0.00	0.59	0.55	0.32	-0.26	-1.14	-1.70	-2.35	-3.10	-3.34

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F

VHZKTS,KT	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0	200.0
VKTS,KT	67.6	85.0	89.7	104.2	124.4	145.4	156.3	167.5	179.6	192.8	208.4	233.4
VCLMB,FT/MN	-3153.	-2918.	-2898.	-2976.	-3314.	-3965.	-4434.	-5007.	-5854.	-7008.	-8681.	-12193.
GAMMA,DEG	-27.4	-19.8	-18.6	-16.4	-15.3	-15.6	-16.3	-17.2	-18.8	-21.0	-24.3	-31.0
IFUS,DEG	-0.19	-2.45	-3.11	-4.07	-5.54	-7.41	-8.55	-9.84	-11.60	-13.86	-16.98	-23.22

POWER-LIMITED TURN CAPABILITY
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	172.8
AY,G	0.3272	0.6620	0.9092	1.0315	1.0517	1.0938	1.0798	0.9692	0.8651	0.7013	0.3560	0.0000
NZ,G	1.0522	1.1993	1.3515	1.4367	1.4512	1.4820	1.4718	1.3926	1.3223	1.2214	1.0616	1.0000
RADIUS,FT	108.2	214.0	350.6	549.4	608.2	809.5	1180.7	1790.6	2302.7	3232.2	7187.2	0.0
RATE,D/S	17.87	18.08	16.55	14.08	13.51	11.95	9.83	7.56	6.30	4.79	2.29	0.00
PHI,DEG	18.12	33.50	42.28	45.89	46.45	47.57	47.21	44.12	40.88	35.07	19.62	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	172.7
AX,G	0.1880	0.2791	0.2757	0.2367	0.2258	0.1904	0.1388	0.0868	0.0608	0.0346	0.0075	0.0002
IFUS,DEG	-10.45	-15.43	-15.20	-12.79	-12.22	-10.46	-8.13	-6.08	-5.17	-4.33	-3.53	-3.34

HORIZONTAL DECELERATION CAPABILITY
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2853	-0.2656	-0.2664	-0.2782	-0.3052	-0.3141	-0.3030	-0.2730	-0.2733	-0.2807	-0.2922	-0.3077	-0.3308	-0.3583
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	13.21	10.23	8.58	8.04	7.62	7.31	7.18	7.13

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	1.9796	1.9683	1.8977	1.8209	1.7187	1.6643	1.6106	1.5582	1.5078	1.4594
PHI,DEG	58.51	58.59	57.83	56.53	54.32	52.97	51.52	49.96	48.30	46.51
PSI,DEG	15.62	12.32	6.40	2.84	1.29	0.83	0.53	0.37	0.34	0.39
RADIUS,FT	365.9	403.5	561.8	844.4	1246.7	1502.9	1801.6	2150.0	2556.2	3031.9
RATE,D/S	21.15	20.37	17.21	13.74	10.86	9.65	8.59	7.65	6.81	6.06
XF-WIND,LB	-8256.	-6877.	-3930.	-2166.	-1467.	-1291.	-1213.	-1232.	-1355.	-1549.
AX,G	-0.7210	-0.6006	-0.3432	-0.1892	-0.1281	-0.1127	-0.1059	-0.1076	-0.1183	-0.1353

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.0236	1.9626	1.8968	1.8094	1.7583	1.7088	1.6614	1.6174	1.5757
PHI,DEG	57.00	57.66	56.75	55.10	53.97	52.75	51.45	50.07	48.58
PSI,DEG	33.23	21.71	13.82	10.03	8.78	7.78	6.97	6.38	5.91
RADIUS,FT	548.8	623.5	872.4	1239.0	1475.6	1749.1	2064.0	2426.9	2846.8
RATE,D/S	14.98	15.51	13.30	10.93	9.83	8.85	7.96	7.17	6.45
XF-WIND,LB	-15087.	-10464.	-7784.	-6398.	-5939.	-5616.	-5412.	-5356.	-5397.
AX,G	-1.3176	-0.9139	-0.6798	-0.5588	-0.5187	-0.4905	-0.4727	-0.4678	-0.4714

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MINIMUM OPERATING WEIGHT WITH LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:38:24 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	162.1
TOTAL HPREQ	1379.2	1161.2	916.0	772.5	741.0	748.1	807.2	987.5	1323.4	1569.7	1886.8	1960.5
IFUS,DEG	0.71	1.33	1.21	0.73	-0.03	-0.28	-1.15	-2.56	-4.28	-5.27	-6.35	-6.58

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	162.3
VKTS,KT	22.2	35.7	50.8	67.5	84.9	89.4	103.0	121.6	140.5	150.2	160.0	162.3
VCLMB,FT/MN	2246.	2997.	3178.	3139.	2888.	2800.	2499.	2014.	1211.	708.	128.	0.
GAMMA,DEG	90.0	55.9	38.1	27.3	19.6	18.0	13.9	9.4	4.9	2.7	0.5	0.0
IFUS,DEG	-0.45	-1.39	-2.89	-4.08	-4.62	-4.59	-3.93	-2.79	-4.37	-5.31	-6.36	-6.61

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0
VKTS,KT	52.3	67.5	86.0	90.9	106.2	127.8	151.8	165.9	188.4
VCLMB,FT/MN	-3412.	-3136.	-3190.	-3257.	-3615.	-4455.	-5954.	-7175.	-10074.
GAMMA,DEG	-40.1	-27.3	-21.5	-20.7	-19.6	-20.1	-22.8	-25.3	-31.9
IFUS,DEG	-0.04	-2.47	-5.50	-6.14	-7.85	-10.66	-14.63	-17.53	-23.95

POWER-LIMITED TURN CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	162.3
AY,G	0.7333	0.9807	1.2436	1.4911	1.6171	1.6367	1.6708	1.6185	1.4192	1.2223	0.8019	0.0000
NZ,G	1.2400	1.4007	1.5958	1.7954	1.9014	1.9180	1.9472	1.9025	1.7362	1.5793	1.2819	1.0000
RADIUS,FT	0.0	36.1	113.9	213.8	350.4	390.8	529.9	787.8	1222.8	1629.8	2826.5	0.0
RATE,D/S	0.00	53.56	33.96	27.14	22.08	21 03	18.25	14.73	11.07	8.90	5.47	0.00
PHI,DEG	36.25	44.44	51.20	56.15	58.27	58.58	59.10	58.30	54.86	50.76	38.83	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	162.2
AX,G	0.7333	0.7293	0.6154	0.4866	0.3601	0.3314	0.2539	0.1703	0.0871	0.0472	0.0079	0.0002
IFUS,DEG	-36.44	-36.23	-32.76	-28.44	-23.38	-22.05	-17.76	-12.28	-9.28	-7.99	-6.81	-6.61

HORIZONTAL DECELERATION CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2568	-0.2485	-0.2618	-0.2936	-0.3452	-0.3609	-0.3521	-0.3455	-0.3685	-0.3885	-0.4134	-0.4441	-0.4862	-0.5350
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.72	10.07	8.56	8.06	7.69	7.43	7.37	7.40

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.6459	2.6284	2.5307	2.4266	2.2900	2.2175	2.1461	2.0767	2.0102	1.9468
PHI,DEG	67.05	67.04	66.45	65.53	64.01	63.10	62.13	61.09	60.00	58.85
PSI,DEG	16.82	13.24	6.88	3.04	1.36	0.86	0.52	0.34	0.31	0.37
RADIUS,FT	252.8	279.8	389.3	581.2	846.4	1010.9	1198.9	1413.1	1656.3	1932.1
RATE,D/S	30.60	29.38	24.84	19.97	16.00	14.35	12.91	11.63	10.51	9.51
XF-WIND,LB	-8497.	-7100.	-4133.	-2381.	-1722.	-1573.	-1527.	-1583.	-1747.	-1988.
AX,G	-0.9880	-0.8256	-0.4806	-0.2769	-0.2002	-0.1829	-0.1775	-0.1841	-0.2032	-0.2312

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.7367	2.6409	2.5466	2.4274	2.3596	2.2941	2.2320	2.1752	2.1178
PHI,DEG	66.95	66.64	65.81	64.61	63.83	62.99	62.11	61.19	60.14
PSI,DEG	36.82	23.53	14.90	10.93	9.62	8.57	7.74	7.15	6.68
RADIUS,FT	358.6	424.6	597.1	842.4	996.4	1171.7	1370.0	1593.9	1851.8
RATE,D/S	22.92	22.77	19.44	16.07	14.56	13.20	12.00	10.92	9.92
XF-WIND,LB	-15642.	-10969.	-8272.	-6926.	-6497.	-6208.	-6042.	-6033.	-6116.
AX,G	-1.8189	-1.2754	-0.9619	-0.8053	-0.7554	-0.7218	-0.7025	-0.7015	-0.7111

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
PRIMARY MISSION CONFIGURATION WITH LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:39:25 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	161.2
TOTAL HPREQ	1794.3	1497.0	1193.1	981.5	903.7	901.9	937.9	1089.2	1395.4	1624.2	1918.6	1959.6
IFUS,DEG	-0.05	0.71	0.78	0.54	-0.02	-0.20	-0.88	-1.99	-3.39	-4.19	-5.08	-5.20

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	161.5
VKTS,KT	3.1	25.2	44.8	64.0	83.0	87.7	102.0	121.0	140.3	150.1	160.0	161.5
VCLMB,FT/MN	318.	1551.	2051.	2267.	2230.	2195.	2028.	1611.	962.	547.	64	0.
GAMMA,DEG	90.0	37.4	26.9	20.5	15.4	14.3	11.3	7.6	3.9	2.1	0.2	0.0
IFUS,DEG	-0.21	-0 38	-1.17	-1.73	-1.67	-1.52	-1.19	-2.16	-3.44	-4.21	-5.08	-5.22

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0
VKTS,KT	53.7	67.7	85.6	90.4	105.2	126.0	148.2	160.1	173.2	189.5
VCLMB,FT/MN	-3632.	-3172.	-3081.	-3103.	-3323.	-3904.	-4930.	-5670.	-6711.	-8481.
GAMMA,DEG	-41.9	-27.6	-20.8	-19.8	-18.2	-17.8	-19.2	-20.5	-22.5	-26.2
IFUS,DEG	0.31	-1.74	-4.38	-4.99	-6.30	-8.41	-11.23	-13.00	-15.32	-19.04

POWER-LIMITED TURN CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	161.5
AY,G	0.2360	0.5888	0.8647	1.1013	1.2172	1.2350	1.2659	1.2195	1.0339	0.8438	0.3601	0.0000
NZ,G	1.0275	1.1605	1.3220	1.4876	1.5753	1.5891	1.6132	1.5771	1.4384	1.3085	1.0635	1.0000
RADIUS,FT	0.0	60.1	163.8	289.4	465.5	518.0	699.4	1045.5	1678.4	2361.0	6294.2	0.0
RATE,D/S	0.00	32.15	23.61	20.05	16.62	15.87	13.83	11.10	8.07	6.14	2.46	0.00
PHI,DEG	13.28	30.49	40.85	47.76	50.60	51.01	51.70	50.67	45.99	40.21	19.88	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	161.5
AX,G	0.2360	0.4043	0.3951	0.3412	0.2691	0.2516	0.2008	0.1341	0.0685	0.0362	0.0039	0.0001
IFUS,DEG	-13.47	-21.97	-22.07	-19.95	-16.35	-15.32	-12.44	-9.72	-7.33	-6.28	-5.31	-5.23

HORIZONTAL DECELERATION CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2721	-0.2596	-0.2673	-0.2899	-0.3309	-0.3436	-0.3322	-0.3130	-0.3237	-0.3372	-0.3555	-0.3791	-0.4119	-0.4501
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.84	9.98	8.35	7.82	7.41	7.13	7.02	7.00

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.1922	2.1776	2.0967	2.0105	1.8973	1.8372	1.7781	1.7206	1.6655	1.6132
PHI,DEG	61.80	61.84	61.15	60.00	58.07	56.90	55.65	54.30	52.88	51.37
PSI,DEG	16.08	12.67	6.57	2.89	1.29	0.80	0.49	0.32	0.29	0.34
RADIUS,FT	320.0	353.5	492.1	737.4	1082.0	1298.9	1549.4	1838.5	2171.3	2554.6
RATE,D/S	24.18	23.25	19.65	15.74	12.51	11.17	9.99	8.94	8.02	7.19
XF-WIND,LB	-8496.	-7100.	-4133.	-2381.	-1722.	-1573.	-1527.	-1583.	-1747.	-1988.
AX,G	-0.8185	-0.6840	-0.3981	-0.2294	-0.1659	-0.1515	-0.1471	-0.1523	-0.1683	-0.1916

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.2674	2.1880	2.1097	2.0113	1.9549	1.9007	1.8493	1.8022	1.7520
PHI,DEG	60.98	61.14	60.24	58.77	57.78	56.71	55.58	54.39	52.95
PSI,DEG	34.72	22.38	14.16	10.33	9.06	8.04	7.22	6.63	6.14
RADIUS,FT	467.8	541.8	759.8	1076.3	1278.0	1509.4	1773.8	2075.7	2434.8
RATE,D/S	17.57	17.85	15.27	12.58	11.35	10.25	9.27	8.39	7.55
XF-WIND,LB	-15642.	-10968.	-8270.	-6926.	-6496.	-6207.	-6041.	-6033.	-6108.
AX,G	-1.5070	-1.0567	-0.7967	-0.6673	-0.6258	-0.5980	-0.5820	-0.5812	-0.5884

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MINIMUM OPERATING WEIGHT WITH LONGBOW AND EXT STORES
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:40:29 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.9
TOTAL HPREQ	1598.3	1348.5	1069.9	890.2	838.3	842.8	897.1	1084.8	1445.3	1718.0	1955.4
IFUS,DEG	0.30	0.96	0.92	0.54	-0.18	-0.42	-1.25	-2.67	-4.45	-5.51	-6.31

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	157.0
VKTS,KT	11.3	29.3	47.0	65.1	83.5	88.1	102.2	121.1	140.3	150.0	157.0
VCLMB,FT/MN	1146.	2163.	2490.	2571.	2416.	2351.	2117.	1616.	855.	374.	0.
GAMMA,DEG	90.0	46.9	31.6	22.9	16.6	15.3	11.8	7.6	3.5	1.4	0.0
IFUS,DEG	-0.29	-0.90	-2.09	-3.06	-3.39	-3.32	-2.55	-3.22	-4.74	-5.64	-6.32

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0
VKTS,KT	53.1	67.7	85.9	90.8	105.9	127.2	150.6	163.6	180.0
VCLMB,FT/MN	-3539.	-3181.	-3179.	-3231.	-3539.	-4286.	-5610.	-6610.	-8342.
GAMMA,DEG	-41.1	-27.6	-21.4	-20.6	-19.3	-19.4	-21.6	-23.5	-27.2
IFUS,DEG	-0.24	-2.52	-5.41	-6.00	-7.57	-10.13	-13.69	-16.06	-19.93

POWER-LIMITED TURN CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.9
AY,G	0.4786	0.7533	1.0167	1.2537	1.3697	1.3869	1.4137	1.3500	1.1231	0.8675	0.0000
NZ,G	1.1086	1.2519	1.4261	1.6037	1.6959	1.7098	1.7316	1.6801	1.5038	1.3240	1.0000
RADIUS,FT	0.0	47.0	139.3	254.3	413.7	461.2	626.3	944.4	1545.2	2296.6	0.0
RATE,D/S	0.00	41.14	27.76	22.82	18.70	17.82	15.44	12.29	8.76	6.32	0.00
PHI,DEG	25.58	36.99	45.48	51.42	53.87	54.21	54.73	53.49	48.36	41.02	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.9
AX,G	0.4785	0.5408	0.4815	0.3932	0.2964	0.2738	0.2121	0.1351	0.0611	0.0247	0.0001
IFUS,DEG	-25.76	-28.49	-26.66	-23.49	-19.24	-18.08	-14.29	-10.81	-8.20	-7.05	-6.33

HORIZONTAL DECELERATION CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2647	-0.2554	-0.2669	-0.2958	-0.3447	-0.3596	-0.3489	-0.3371	-0.3556	-0.3731	-0.3955	-0.4233	-0.4618	-0.5063
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.69	9.93	8.36	7.83	7.43	7.15	7.06	7.05

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.3688	2.3523	2.2637	2.1701	2.0479	1.9830	1.9193	1.8573	1.7982	1.7420
PHI,DEG	64.07	64.09	63.44	62.39	60.64	59.59	58.46	57.26	55.98	54.63
PSI,DEG	16.39	12.91	6.69	2.94	1.30	0.80	0.48	0.30	0.27	0.33
RADIUS,FT	290.1	320.8	446.4	667.9	976.5	1169.4	1391.2	1645.5	1936.3	2268.8
RATE,D/S	26.67	25.62	21.66	17.37	13.86	12.40	11.12	9.99	8.99	8.10
XF-WIND,LB	-8583.	-7181.	-4206.	-2459.	-1814.	-1675.	-1640.	-1710.	-1889.	-2147.
AX,G	-0.8922	-0.7465	-0.4372	-0.2556	-0.1886	-0.1741	-0.1705	-0.1777	-0.1964	-0.2232

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4605	2.3700	2.2879	2.1764	2.1157	2.0574	2.0023	1.9521	1.9001
PHI,DEG	63.60	63.53	62.70	61.30	60.40	59.43	58.42	57.34	56.08
PSI,DEG	35.64	22.84	14.48	10.56	9.26	8.23	7.41	6.81	6.34
RADIUS,FT	418.0	489.4	685.6	971.7	1151.8	1357.6	1591.6	1857.5	2169.0
RATE,D/S	19.66	19.76	16.93	13.93	12.59	11.40	10.33	9.37	8.47
XF-WIND,LB	-15843.	-11150.	-8477.	-7116.	-6696.	-6419.	-6267.	-6275.	-6372.
AX,G	-1.6469	-1.1590	-0.8812	-0.7397	-0.6961	-0.6673	-0.6515	-0.6523	-0.6624

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MAX ALTERNATE GROSS WEIGHT [MAGW] WITH LONGBOW AND EXT STORES
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:41:30 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	153.3
TOTAL HPREQ	2285.2	1812.6	1445.9	1180.1	1066.1	1058.6	1084.9	1252.3	1593.7	1850.6	1951.9
IFUS,DEG	-0.84	0.18	0.37	0.25	-0.23	-0.41	-1.04	-2.16	-3.59	-4.44	-4.74

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F

VHZKTS,KT	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0
VKTS,KT	68.3	85.8	90.5	105.2	125.8	147.7	159.3	171.6	186.0	205.3
VCLMB,FT/MN	-3308.	-3150.	-3151.	-3320.	-3831.	-4761.	-5421.	-6291.	-7646.	-10002.
GAMMA,DEG	-28.6	-21.2	-20.1	-18.2	-17.5	-18.6	-19.6	-21.2	-23.9	-28.8
IFUS,DEG	-1.85	-4.31	-4.97	-6.14	-8.07	-10.65	-12.24	-14.19	-17.04	-21.75

POWER-LIMITED TURN CAPABILITY
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	153.6
AY,G	0.2108	0.5950	0.8434	0.9565	0.9728	0.9981	0.9377	0.7110	0.4072	0.0000
NZ,G	1.0222	1.1636	1.3082	1.3838	1.3951	1.4128	1.3708	1.2271	1.0798	1.0000
RADIUS,FT	168.0	238.1	377.9	592.4	657.6	887.1	1359.8	2440.7	4892.2	0.0
RATE,D/S	11.51	16.25	15.35	13.06	12.50	10.90	8.53	5.55	2.97	0.00
PHI,DEG	11.90	30.75	40.15	43.73	44.22	44.95	43.18	35.46	22.21	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	153.5
AX,G	0.0964	0.2347	0.2388	0.2001	0.1884	0.1497	0.0938	0.0376	0.0094	0.0000
IFUS,DEG	-5.40	-13.28	-13.84	-12.10	-11.61	-9.99	-7.82	-5.88	-5.02	-4.76

HORIZONTAL DECELERATION CAPABILITY
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2901	-0.2699	-0.2746	-0.2935	-0.3306	-0.3425	-0.3368	-0.3128	-0.3205	-0.3324	-0.3484	-0.3691	-0.3981	-0.4321
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	13.15	10.14	8.46	7.89	7.45	7.12	6.96	6.89

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	1.9328	1.9193	1.8471	1.7707	1.6710	1.6180	1.5660	1.5155	1.4672	1.4213
PHI,DEG	57.41	57.50	56.74	55.38	53.07	51.66	50.13	48.48	46.71	44.81
PSI,DEG	15.32	12.09	6.25	2.73	1.19	0.73	0.43	0.27	0.24	0.28
RADIUS,FT	381.5	420.6	585.8	881.5	1305.0	1576.0	1893.4	2265.5	2702.1	3217.5
RATE,D/S	20.28	19.54	16.51	13.16	10.37	9.20	8.17	7.26	6.44	5.71
XF-WIND,LB	-8582.	-7181.	-4206.	-2459.	-1814.	-1675.	-1640.	-1710.	-1889.	-2146.
AX,G	-0.7279	-0.6091	-0.3567	-0.2085	-0.1539	-0.1421	-0.1391	-0.1450	-0.1602	-0.1820

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 4000. FT; TEMP = 95.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.0076	1.9338	1.8635	1.7758	1.7262	1.6786	1.6337	1.5929	1.5549
PHI,DEG	55.54	56.44	55.56	53.83	52.64	51.36	49.99	48.52	46.93
PSI,DEG	32.44	21.19	13.38	9.71	8.46	7.46	6.66	6.06	5.58
RADIUS,FT	578.0	651.8	910.9	1297.4	1547.5	1837.6	2173.2	2561.9	3014.7
RATE,D/S	14.22	14.84	12.74	10.43	9.37	8.42	7.56	6.79	6.09
XF-WIND,LB	-15843.	-11149.	-8447.	-7116.	-6696.	-6419.	-6267.	-6275.	-6389.
AX,G	-1.3437	-0.9457	-0.7165	-0.6035	-0.5679	-0.5445	-0.5315	-0.5322	-0.5419

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CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MINIMUM OPERATING WEIGHT W/O LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:33:37 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 8260. LB; DOB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	175.9
TOTAL HPREQ	1263.4	1055.2	825.4	704.5	682.6	690.1	743.2	897.6	1165.8	1349.6	1573.8	1848.2	2049.8
IFUS,DEG	0.93	1.57	1.51	1.11	0.48	0.29	-0.30	-1.25	-2.31	-2.85	-3.42	-4.02	-4.39

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 8260. LB; DOB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	175.9
VKTS,KT	32.1	44.1	57.1	72.1	88.5	92.8	105.7	123.7	141.7	151.0	160.4	170.1	175.9
VCLMB,FT/MN	3246.	3985.	4125.	4045.	3835.	3763.	3473.	3023.	2241.	1749.	1175.	507.	0.
GAMMA,DEG	90.0	63.1	45.5	33.7	25.3	23.6	18.9	14.0	9.0	6.6	4.1	1.7	0.0
IFUS,DEG	-1.02	-1.57	-2.67	-3.28	-3.13	-2.91	-1.54	1.33	-0.21	-1.16	-2.24	-3.48	-4.38

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 8260. LB; DOB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0
VKTS,KT	50.9	66.5	85.1	90.0	105.3	126.8	150.5	164.1	183.0
VCLMB,FT/MN	-3185.	-2904.	-2948.	-3010.	-3343.	-4156.	-5599.	-6730.	-8989.
GAMMA,DEG	-38.2	-25.5	-20.0	-19.3	-18.3	-18.9	-21.5	-23.9	-29.0
IFUS,DEG	1.38	-0.89	-3.98	-4.62	-6.20	-8.85	-12.57	-15.17	-20.01

POWER-LIMITED TURN CAPABILITY
GW = 8260. LB; DOB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	175.9
AY,G	1.0043	1.2555	1.5318	1.7987	1.9344	1.9623	2.0272	2.0117	1.8514	1.7107	1.5045	1.1420	0.0000
NZ,G	1.4173	1.6051	1.8293	2.0510	2.1776	2.2024	2.2605	2.2465	2.1042	1.9815	1.8068	1.5180	1.0000
RADIUS,FT	0.0	28.2	92.5	178.0	292.9	326.0	436.8	633.8	937.3	1164.6	1586.5	2240.6	0.0
RATE,D/S	0.00	68.56	41.83	32.60	26.41	25.21	22.14	18.31	14.44	12.46	10.27	7.34	0.00
PHI,DEG	45.13	51.46	56.86	60.82	62.67	63.00	63.75	63.57	61.63	59.70	56.41	48.83	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 8260. LB; DOB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	175.8
AX,G	1.0044	0.9559	0.7943	0.6283	0.4778	0.4451	0.3556	0.2585	0.1640	0.1187	0.0742	0.0298	0.0001
IFUS,DEG	-45.58	-43.99	-39.39	-33.86	-27.66	-26.08	-20.92	-13.01	-9.37	-7.82	-6.43	-5.17	-4.39

HORIZONTAL DECELERATION CAPABILITY
GW = 8260. LB; DOB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2523	-0.2431	-0.2533	-0.2865	-0.3247	-0.3381	-0.3246	-0.3220	-0.3478	-0.3689	-0.3949	-0.4256	-0.4703	-0.5213
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.70	10.39	9.14	8.75	8.48	8.30	8.38	8.54

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 8260. LB, DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.1089	3.0866	2.9768	2.8487	2.6909	2.6074	2.5254	2.4458	2.3700	2.2972
PHI,DEG	70.58	70.56	70.13	69.35	68.11	67.38	66.60	65.78	64.93	64.03
PSI,DEG	22.47	17.05	8.42	3.66	2.00	1.53	1.23	1.10	1.13	1.25
RADIUS,FT	218.5	237.5	324.0	481.6	697.6	830.4	981.1	1151.3	1342.5	1557.5
RATE,D/S	35.40	34.61	29.85	24.10	19.41	17.47	15.77	14.28	12.97	11.80
XF-WIND,LB	-11510.	-9318.	-5171.	-2687.	-1906.	-1723.	-1651.	-1694.	-1864.	-2115.
AX,G	-1.3935	-1.1281	-0.6260	-0.3253	-0.2308	-0.2086	-0.1999	-0.2051	-0.2256	-0.2561

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 8260. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.2600	3.0625	2.9573	2.8282	2.7422	2.6659	2.5931	2.5261	2.4558
PHI,DEG	70.56	70.39	69.61	68.67	67.97	67.29	66.58	65.84	64.99
PSI,DEG	53.80	25.12	15.34	11.38	10.07	9.05	8.26	7.72	7.31
RADIUS,FT	436.2	353.3	493.9	693.5	820.9	962.8	1122.2	1300.9	1506.2
RATE,D/S	18.84	27.37	23.50	19.52	17.67	16.07	14.65	13.38	12.20
XF-WIND,LB	-22586.	-11962.	-8588.	-7088.	-6554.	-6205.	-5987.	-5949.	-6003.
AX,G	-2.7344	-1.4482	-1.0397	-0.8581	-0.7935	-0.7512	-0.7248	-0.7202	-0.7267

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
PRIMARY MISSION GROSS WEIGHT [PMGW] W/O LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:34:36 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	174.9
TOTAL HPREQ	1599.0	1345.3	1056.5	874.3	813.6	814.0	849.4	984.3	1234.5	1408.2	1621.6	1886.1	2050.0
IFUS,DEG	0.30	1.00	1.12	0.94	0.49	0.34	-0.13	-0.90	-1.79	-2.26	-2.75	-3.28	-3.56

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	174.9
VKTS,KT	16.5	33.4	50.0	67.5	85.5	90.1	103.9	122.4	141.1	150.6	160.3	170.0	174.9
VCLMB,FT/MN	1673.	2703.	3030.	3123.	3062.	3029.	2848.	2444.	1810.	1402.	924.	355.	0.
GAMMA,DEG	90.0	53.2	36.8	27.2	20.7	19.4	15.7	11.4	7.3	5.3	3.3	1.2	0.0
IFUS,DEG	-0.66	-0.86	-1.42	-1.52	-0.90	-0.58	0.95	0.88	-0.30	-1.05	-1.92	-2.94	-3.56

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0
VKTS,KT	51.9	66.5	84.6	89.5	104.4	125.1	147.1	158.9	171.6	187.4
VCLMB,FT/MN	-3342.	-2894.	-2800.	-2827.	-3034.	-3595.	-4585.	-5300.	-6277.	-7990.
GAMMA,DEG	-39.5	-25.5	-19.1	-18.2	-16.7	-16.5	-17.9	-19.2	-21.2	-24.9
IFUS,DEG	1.60	-0.38	-3.11	-3.62	-4.83	-6.81	-9.45	-11.12	-13.24	-16.75

POWER-LIMITED TURN CAPABILITY
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	175.0
AY,G	0.6132	0.8745	1.1368	1.3717	1.4995	1.5240	1.5812	1.5675	1.4258	1.2998	1.1114	0.7605	0.0000
NZ,G	1.1730	1.3284	1.5141	1.6975	1.8024	1.8228	1.8709	1.8593	1.7416	1.6400	1.4951	1.2564	1.0000
RADIUS,FT	0.0	40.5	124.6	232.4	377.9	419.7	560.0	813.4	1217.1	1532.6	2039.5	3364.6	0.0
RATE,D/S	0.00	47.76	31.04	24.97	20.47	19.58	17.27	14.27	11.12	9.46	7.59	4.89	0.00
PHI,DEG	31.52	41.17	48.67	53.91	56.30	56.73	57.69	57.47	54.97	52.44	48.04	37.29	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	174.9
AX,G	0.6133	0.6436	0.5646	0.4663	0.3678	0.3457	0.2830	0.2048	0.1304	0.0940	0.0578	0.0208	0.0000
IFUS,DEG	-31.98	-32.97	-30.02	-25.83	-20.73	-19.40	-14.94	-10.64	-7.66	-6.37	-5.21	-4.13	-3.56

HORIZONTAL DECELERATION CAPABILITY
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2649	-0.2534	-0.2584	-0.2777	-0.3131	-0.3241	-0.3010	-0.2876	-0.3019	-0.3166	-0.3356	-0.3593	-0.3942	-0.4345
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.50	10.04	8.70	8.27	7.96	7.75	7.78	7.87

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.5731	2.5546	2.4638	2.3577	2.2271	2.1580	2.0901	2.0243	1.9616	1.9012
PHI,DEG	66.18	66.22	65.73	64.78	63.23	62.31	61.33	60.29	59.20	58.05
PSI,DEG	21.76	16.53	8.16	3.54	1.92	1.47	1.18	1.05	1.07	1.17
RADIUS,FT	273.6	296.5	404.1	601.9	876.1	1046.0	1240.0	1460.6	1710.4	1993.9
RATE,D/S	28.28	27.72	23.93	19.28	15.45	13.87	12.48	11.26	10.18	9.22
XF-WIND,LB	-11510.	-9318.	-5170.	-2687.	-1906.	-1723.	-1651.	-1694.	-1864.	-2115.
AX,G	-1.1533	-0.9337	-0.5181	-0.2693	-0.1910	-0.1727	-0.1654	-0.1698	-0.1867	-0.2120

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.6985	2.5347	2.4472	2.3346	2.2696	2.2064	2.1462	2.0907	2.0326
PHI,DEG	64.10	65.91	65.04	63.81	63.02	62.16	61.27	60.34	59.25
PSI,DEG	50.73	24.29	14.82	10.93	9.67	8.67	7.89	7.35	6.93
RADIUS,FT	609.9	443.4	618.5	873.1	1032.9	1214.8	1420.2	1651.9	1920.5
RATE,D/S	13.48	21.81	18.76	15.51	14.04	12.74	11.58	10.54	9.57
XF-WIND,LB	-22718.	-11962.	-8585.	-7056.	-6554.	-6204.	-5987.	-5949.	-6003.
AX,G	-2.2763	-1.1986	-0.8602	-0.7070	-0.6567	-0.6217	-0.5999	-0.5961	-0.6015

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
ATTACK MISSION GROSS WEIGHT [AMGW] W/O LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:35:57 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	174.6
TOTAL HPREQ	1669.3	1403.3	1103.9	909.7	841.1	840.0	871.7	1003.0	1250.0	1421.9	1633.5	1896.8	2050.0
IFUS,DEG	0.17	0.90	1.05	0.90	0.48	0.34	-0.11	-0.86	-1.72	-2.18	-2.66	-3.17	-3.43

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	174.6
VKTS,KT	13.5	31.5	48.8	66.7	85.1	89.7	103.6	122.2	141.0	150.6	160.2	170.0	174.6
VCLMB,FT/MN	1365.	2459.	2829.	2959.	2924.	2896.	2736.	2344.	1735.	1341.	877.	322.	0.
GAMMA,DEG	90.0	50.5	34.9	26.0	19.8	18.6	15.1	10.9	7.0	5.0	3.1	1.1	0.0
IFUS,DEG	-0.61	-0.75	-1.22	-1.26	-0.58	-0.26	1.28	0.80	-0.33	-1.05	-1.89	-2.88	-3.43

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0
VKTS,KT	52.1	66.5	84.6	89.4	104.3	124.9	146.8	158.3	170.7	185.6	208.7
VCLMB,FT/MN	-3380.	-2905.	-2789.	-2810.	-2999.	-3526.	-4462.	-5134.	-6018.	-7548.	-10694.
GAMMA,DEG	-39.8	-25.6	-19.0	-18.1	-16.5	-16.2	-17.5	-18.7	-20.4	-23.7	-30.4
IFUS,DEG	1.62	-0.31	-2.98	-3.49	-4.65	-6.54	-9.05	-10.62	-12.55	-15.68	-21.77

POWER-LIMITED TURN CAPABILITY
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	174.6
AY,G	0.5401	0.8103	1.0733	1.3059	1.4317	1.4558	1.5120	1.4985	1.3592	1.2349	1.0481	0.6941	0.0000
NZ,G	1.1365	1.2871	1.4670	1.6448	1.7464	1.7662	1.8127	1.8016	1.6875	1.5890	1.4487	1.2174	1.0000
RADIUS,FT	0.0	43.7	132.0	244.1	395.8	439.4	585.6	850.8	1276.7	1613.2	2162.7	3686.3	0.0
RATE,D/S	0.00	44.25	29.31	23.77	19.55	18.71	16.51	13.64	10.60	8.99	7.15	4.46	0.00
PHI,DEG	28.37	39.02	47.03	52.56	55.07	55.52	56.52	56.29	53.67	51.01	46.37	34.80	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	174.4
AX,G	0.5403	0.5906	0.5270	0.4402	0.3498	0.3293	0.2708	0.1960	0.1248	0.0898	0.0548	0.0188	0.0009
IFUS,DEG	-28.84	-30.75	-28.28	-24.43	-19.58	-18.28	-13.97	-10.24	-7.37	-6.13	-5.00	-3.95	-3.46

HORIZONTAL DECELER..ION CAPABILITY
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2671	-0.2553	-0.2595	-0.2775	-0.3115	-0.3221	-0.2984	-0.2832	-0.2956	-0.3094	-0.3273	-0.3500	-0.3835	-0.4221
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.51	10.02	8.65	8.22	7.90	7.69	7.70	7.78

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4931	2.4753	2.3872	2.2845	2.1579	2.0910	2.0252	1.9614	1.9006	1.8422
PHI,DEG	65.34	65.40	64.90	63.91	62.30	61.34	60.32	59.23	58.10	56.90
PSI,DEG	21.61	16.42	8.10	3.52	1.91	1.45	1.16	1.03	1.06	1.16
RADIUS,FT	284.5	308.2	419.9	625.8	911.8	1089.4	1292.4	1523.7	1786 1	2084.4
RATE,D/S	27.19	26.67	23.03	18.54	14.85	13.32	11.97	10.79	9.75	8.81
XF-WIND,LB	-11510.	-9318.	-5170.	-2687.	-1906.	-1723.	-1651.	-1694.	-1864.	-2115.
AX,G	-1.1175	-0.9047	-0.5020	-0.2609	-0.1851	-0.1673	-0.1603	-0.1645	-0.1809	-0.2054

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.6147	2.4559	2.3712	2.2621	2.1991	2.1378	2.0795	2.0258	1.9693
PHI,DEG	62.68	65.05	64.17	62.90	62.07	61.18	60.25	59.28	58.14
PSI,DEG	49.88	24.11	14.71	10.85	9.59	8.59	7.81	7.27	6.85
RADIUS,FT	649.1	461.4	643.3	908.6	1075.5	1265.6	1480.7	1723.6	2006.1
RATE,D/S	12.66	20.96	18.04	14.90	13.49	12.23	11.10	10.10	9.16
XF-WIND,LB	-22719.	-11962.	-8585.	-7056.	-6554.	-6204.	-5987.	-5949.	-6002.
AX,G	-2.2057	-1.1614	-0.8335	-0.6851	-0.6363	-0.6024	-0.5812	-0.5776	-0.5827

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MAX OPERATING WEIGHT W/O LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:37:07 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	173.8
TOTAL HPREQ	1804.8	1507.7	1190.0	974.5	891.4	887.6	912.9	1037.5	1278.8	1447.9	1658.9	1924.6	2050.0
IFUS,DEG	-0.06	0.71	0.91	0.82	0.45	0.33	-0.09	-0.79	-1.62	-2.05	-2.52	-3.02	-3.23

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	173.8
VKTS,KT	8.2	28.3	46.9	65.6	84.3	89.0	103.1	121.9	140.9	150.5	160.2	170.0	173.8
VCLMB,FT/MN	826.	2026.	2481.	2676.	2689.	2671.	2538.	2178.	1607.	1231.	786.	252.	0.
GAMMA,DEG	90.0	45.0	31.5	23.8	18.4	17.2	14.1	10.2	6.5	4.6	2.8	0.8	0.0
IFUS,DEG	-0.53	-0.55	-0.91	-0.84	-0.09	0.24	1.32	0.67	-0.37	-1.06	-1.85	-2.79	-3.23

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0
VKTS,KT	52.6	66.6	84.6	89.4	104.2	124.7	146.2	157.6	169.5	183.3	201.0
VCLMB,FT/MN	-3452.	-2930.	-2779.	-2790.	-2949.	-3423.	-4266.	-4884.	-5669.	-6946.	-9051.
GAMMA,DEG	-40.4	-25.7	-18.9	-18.0	-16.2	-15.7	-16.7	-17.8	-19.3	-22.0	-26.4
IFUS,DEG	1.67	-0.20	-2.78	-3.30	-4.38	-6.13	-8.41	-9.87	-11.59	-14.20	-18.29

POWER-LIMITED TURN CAPABILITY
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	173.8
AY,G	0.4027	0.7003	0.9670	1.1973	1.3203	1.3439	1.3985	1.3854	1.2496	1.1275	0.9421	0.5770	0.0000
NZ,G	1.0780	1.2208	1.3911	1.5600	1.6563	1.6751	1.7193	1.7087	1.6004	1.5071	1.3740	1.1546	1.0000
RADIUS,FT	0.0	50.6	146.5	266.2	429.2	476.0	633.1	920.3	1388.8	1766.8	2405.9	4434.4	0.0
RATE,D/S	0.00	38.24	26.41	21.80	18.03	17.27	15.27	12.61	9.75	8.21	6.43	3.71	0.00
PHI,DEG	21.94	35.00	44.04	50.13	52.86	53.35	54.44	54.18	51.34	48.44	43.32	30.02	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	173.8
AX,G	0.4027	0.4988	0.4640	0.3965	0.3198	0.3019	0.2500	0.1814	0.1152	0.0822	0.0490	0.0147	0.0002
IFUS,DEG	-22.39	-26.66	-25.25	-22.04	-17.63	-16.43	-12.77	-9.58	-6.89	-5.72	-4.64	-3.63	-3.23

HORIZONTAL DECELERATION CAPABILITY
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2720	-0.2587	-0.2615	-0.2774	-0.3090	-0.3190	-0.2949	-0.2766	-0.2860	-0.2982	-0.3145	-0.3353	-0.3664	-0.4025
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.55	9.99	8.58	8.13	7.80	7.58	7.57	7.64

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.3646	2.3476	2.2641	2.1667	2.0467	1.9832	1.9208	1.8603	1.8026	1.7473
PHI,DEG	63.85	63.93	63.42	62.37	60.65	59.62	58.52	57.36	56.14	54.85
PSI,DEG	21.33	16.22	8.00	3.47	1.88	1.43	1.14	1.01	1.03	1.13
RADIUS,FT	304.3	329.2	448.4	668.9	976.5	1168.3	1388.1	1639.4	1925.3	2251.8
RATE,D/S	25.42	24.97	21.57	17.35	13.86	12.42	11.15	10.03	9.04	8.16
XF-WIND,LB	-11510.	-9318.	-5170.	-2687.	-1906.	-1723.	-1651.	-1694.	-1864.	-2115.
AX,G	-1.0598	-0.8580	-0.4761	-0.2475	-0.1755	-0.1587	-0.1520	-0.1560	-0.1716	-0.1948

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4799	2.3293	2.2488	2.1455	2.0856	2.0276	1.9723	1.9213	1.8672
PHI,DEG	59.90	63.52	62.62	61.28	60.39	59.44	58.44	57.40	56.16
PSI,DEG	48.16	23.79	14.50	10.68	9.44	8.45	7.66	7.12	6.69
RADIUS,FT	729.5	494.0	688.2	973.0	1152.9	1358.3	1591.2	1855.1	2164.2
RATE,D/S	11.27	19.58	16.86	13.91	12.58	11.39	10.33	9.38	8.49
XF-WIND,LB	-22730.	-11962.	-8585.	-7057.	-6554.	-6204.	-5987.	-5949.	-6000.
AX,G	-2.0930	-1.1015	-0.7905	-0.6498	-0.6035	-0.5713	-0.5513	-0.5478	-0.5525

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MININUM OPERATING WEIGHT W/O LONGBOW [WITH EXT STORES]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:38:03 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	170.6
TOTAL HPREQ	1456.3	1222.9	958.7	804.7	765.4	770.6	822.0	984.2	1273.5	1476.3	1724.2	2026.4	2049.7
IFUS,DEG	0.54	1.22	1.23	0.90	0.32	0.14	-0.46	-1.45	-2.56	-3.17	-3.80	-4.45	-4.50

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	170.7
VKTS,KT	23.1	37.3	52.3	68.7	86.1	90.6	104.1	122.4	141.0	150.5	160.1	170.0	170.7
VCLMB,FT/MN	2335.	3184.	3409.	3391.	3228.	3168.	2920.	2461.	1714.	1244.	696.	51.	0.
GAMMA,DEG	90.0	57.5	40.1	29.2	21.7	20.2	16.1	11.4	6.9	4.7	2.5	0.2	0.0
IFUS,DEG	-0.79	-1.33	-2.31	-2.82	-2.59	-2.36	-0.98	0.02	-1.39	-2.26	-3.26	-4.41	-4.49

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0
VKTS,KT	51.5	66.6	85.1	89.9	105.1	126.3	149.5	162.3	178.2
VCLMB,FT/MN	-3283.	-2933.	-2924.	-2978.	-3273.	-4005.	-5300.	-6285.	-7954.
GAMMA,DEG	-39.0	-25.8	-19.8	-19.1	-17.9	-18.2	-20.5	-22.5	-26.1
IFUS,DEG	1.06	-1.15	-4.11	-4.65	-6.12	-8.57	-11.96	-14.26	-17.90

POWER-LIMITED TURN CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	170.6
AY,G	0.7692	1.0203	1.2845	1.5254	1.6555	1.6801	1.7351	1.7080	1.5353	1.3801	1.1371	0.4894	0.0000
NZ,G	1.2616	1.4286	1.6279	1.8240	1.9341	1.9551	2.0026	1.9793	1.8322	1.7043	1.5145	1.1137	1.0000
RADIUS,FT	0.0	34.7	110.3	209.6	342.3	380.8	510.3	746.5	1130.4	1443.5	1993.3	5228.3	0.0
RATE,D/S	0.00	55.72	35.07	27.77	22.60	21.59	18.95	15.55	11.98	10.05	7.76	3.14	0.00
PHI,DEG	37.57	45.58	52.10	56.75	58.87	59.24	60.05	59.66	56.94	54.09	48.71	26.14	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	170.6
AX,G	0.7692	0.7626	0.6470	0.5183	0.3962	0.3692	0.2946	0.2078	0.1240	0.0836	0.0434	0.0029	0.0000
IFUS,DEG	-38.02	-37.62	-33.83	-29.03	-23.48	-22.04	-17.28	-11.61	-8.37	-6.98	-5.73	-4.58	-4.50

HORIZONTAL DECELERATION CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2597	-0.2498	-0.2586	-0.2840	-0.3271	-0.3403	-0.3206	-0.3144	-0.3367	-0.3559	-0.3799	-0.4089	-0.4505	-0.4982
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.48	10.08	8.78	8.36	8.06	7.87	7.91	8.02

CONFIGURATION: X, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ADED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MAX ALTERNATE CONFIGURATION W/O LONGBOW [WITH EXT STORES]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:39:02 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.3
TOTAL HPREQ	1969.5	1622.4	1286.0	1050.5	956.3	951.3	977.6	1112.3	1377.9	1571.7	1811.2	2050.0
IFUS,DEG	-0.33	0.51	0.72	0.64	0.27	0.14	-0.32	-1.09	-2.01	-2.52	-3.05	-3.52

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.3
VKTS,KT	2.5	25.2	45.0	64.3	83.3	88.1	102.4	121.4	140.6	150.3	160.1	168.3
VCLMB,FT/MN	254.	1546.	2093.	2337.	2368.	2354.	2228.	1863.	1276.	890.	437.	0.
GAMMA,DEG	90.0	37.4	27.3	21.0	16.3	15.3	12.4	8.7	5.1	3.4	1.5	0.0
IFUS,DEG	-0.48	-0.45	-0.83	-0.84	-0.18	0.13	0.50	-0.19	-1.26	-1.95	-2.76	-3.52

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	166.0	170.0	180.0
VKTS,KT	53.1	66.9	84.8	89.6	104.3	124.9	146.5	157.9	170.0	184.1	202.7
VCLMB,FT/MN	-3540.	-3003.	-2845.	-2855.	-3017.	-3504.	-4367.	-5006.	-5827.	-7161.	-9450.
GAMMA,DEG	-41.2	-26.3	-19.3	-18.3	-16.6	-16.1	-17.1	-18.2	-19.8	-22.6	-27.4
IFUS,DEG	1.29	-0.60	-3.16	-3.69	-4.79	-6.59	-8.93	-10.45	-12.25	-15.01	-19.49

POWER-LIMITED TURN CAPABILITY
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.3
AY,G	0.2139	0.5837	0.8603	1.0887	1.2072	1.2292	1.2784	1.2542	1.0973	0.9529	0.7114	0.0000
NZ,G	1.0228	1.1579	1.3191	1.4783	1.5676	1.5846	1.6231	1.6041	1.4850	1.3813	1.2275	1.0000
RADIUS,FT	0.0	60.7	164.7	292.8	469.4	520.4	692.6	1016.6	1580.8	2090.6	3186.3	0.0
RATE,D/S	0.00	31.87	23.49	19.82	16.48	15.79	13.96	11.42	8.56	6.94	4.86	0.00
PHI,DEG	12.08	30.27	40.71	47.43	50.37	50.87	51.97	51.44	47.68	43.64	35.47	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.3
AX,G	0.2133	0.4007	0.3975	0.3478	0.2820	0.2664	0.2193	0.1550	0.0911	0.0591	0.0271	0.0000
IFUS,DEG	-12.50	-21.97	-22.04	-19.63	-15.73	-14.65	-11.87	-8.95	-6.43	-5.32	-4.30	-3.52

HORIZONTAL DECELERATION CAPABILITY
GW = 11450. LB; DOB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2780	-0.2628	-0.2658	-0.2821	-0.3148	-0.3253	-0.3025	-0.2832	-0.2925	-0.3047	-0.3213	-0.3429	-0.3744	-0.4110
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.57	9.93	8.47	8.00	7.66	7.43	7.41	7.45

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.2476	2.2302	2.1491	2.0558	1.9418	1.8816	1.8225	1.7652	1.7108	1.6587
PHI,DEG	62.24	62.36	61.84	60.73	58.88	57.77	56.59	55.33	54.01	52.61
PSI,DEG	20.97	15.95	7.86	3.39	1.82	1.37	1.09	0.96	0.98	1.07
RADIUS,FT	326.1	352.4	479.7	716.4	1048.4	1256.3	1495.5	1770.0	2083.8	2443.9
RATE,D/S	23.72	23.33	20.16	16.20	12.91	11.55	10.35	9.29	8.35	7.52
XF-WIND,LB	-11634.	-9428.	-5262.	-2779.	-2016.	-1845.	-1786.	-1845.	-2033.	-2306.
AX,G	-1.0160	-0.8234	-0.4595	-0.2427	-0.1760	-0.1611	-0.1560	-0.1611	-0.1776	-0.2014

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.3749	2.2182	2.1390	2.0404	1.9836	1.9287	1.8765	1.8288	1.7778
PHI,DEG	56.60	61.86	60.95	59.52	58.57	57.55	56.48	55.35	54.00
PSI,DEG	45.87	23.35	14.20	10.45	9.21	8.23	7.44	6.90	6.47
RADIUS,FT	825.8	530.1	737.7	1044.6	1239.4	1462.3	1716.0	2004.5	2345.3
RATE,D/S	9.95	18.24	15.73	12.96	11.70	10.58	9.58	8.68	7.83
XF-WIND,LB	-23015.	-12176.	-8783.	-7274.	-6784.	-6449.	-6248.	-6232.	-6305.
AX,G	-2.0100	-1.0634	-0.7671	-0.6353	-0.5925	-0.5633	-0.5457	-0.5443	-0.5507

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MININUM OPERATING WEIGHT WITH LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:40:09 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.1
TOTAL HPREQ	1326.2	1110.0	871.8	749.0	739.7	754.5	840.9	1079.5	1507.7	1822.6	2050.0
IFUS,DEG	0.81	1.40	1.22	0.64	-0.25	-0.54	-1.51	-3.12	-5.06	-6.18	-6.89

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.1
VKTS,KT	29.1	40.1	53.6	68.9	85.6	89.9	103.1	121.6	140.4	150.1	156.1
VCLMB,FT/MN	2951.	3523.	3616.	3432.	3072.	2958.	2562.	2011.	1031.	416.	0.
GAMMA,DEG	90.0	60.1	41.8	29.5	20.8	19.0	14.2	9.4	4.2	1.6	0.0
IFUS,DEG	-0.94	-2.25	-4.19	-5.69	-6.47	-6.49	-5.69	-3.18	-5.03	-6.15	-6.89

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0
VKTS,KT	51.5	67.4	86.2	91.3	107.1	130.0	158.6
VCLMB,FT/MN	-3285.	-3107.	-3259.	-3371.	-3870.	-5068.	-7538.
GAMMA,DEG	-39.0	-27.1	-21.9	-21.4	-20.9	-22.6	-28.0
IFUS,DEG	-0.42	-3.18	-6.63	-7.24	-9.34	-13.10	-19.47

POWER-LIMITED TURN CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.0
AY,G	0.9237	1.1731	1.4426	1.6896	1.8171	1.8394	1.8821	1.8093	1.5301	1.2351	0.0000
NZ,G	1.3613	1.5415	1.7553	1.9633	2.0741	2.0937	2.1312	2.0673	1.8279	1.5892	1.0000
RADIUS,FT	0.0	30.2	98.2	188.7	311.8	347.8	470.4	704.7	1134.1	1613.0	0.0
RATE,D/S	0.00	64.06	39.39	30.76	24.81	23.64	20.56	16.47	11.94	8.99	0.00
PHI,DEG	42.73	49.55	55.27	59.38	61.18	61.47	62.02	61.09	56.87	51.07	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.0
AX,G	0.9237	0.8832	0.7236	0.5520	0.3931	0.3583	0.2651	0.1718	0.0741	0.0276	0.0001
IFUS,DEG	-43.18	-41.93	-37.61	-32.39	-26.51	-25.01	-20.04	-12.73	-9.22	-7.72	-6.89

HORIZONTAL DECELERATION CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2548	-0.2476	-0.2643	-0.3022	-0.3620	-0.3801	-0.3678	-0.3750	-0.4135	-0.4420	-0.4760	-0.5159	-0.5713	-0.6343
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.44	10.07	8.78	8.38	8.08	7.88	7.94	8.06

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.0105	2.9824	2.8673	2.7402	2.5880	2.5078	2.4293	2.3537	2.2823	2.2144
PHI,DEG	69.70	69.70	69.26	68.45	67.15	66.38	65.56	64.69	63.79	62.83
PSI,DEG	22.18	16.81	8.28	3.55	1.89	1.41	1.11	0.97	0.99	1.10
RADIUS,FT	229.0	248.7	339.3	504.6	731.7	871.5	1030.4	1210.2	1412.5	1640.6
RATE,D/S	33.79	33.05	28.50	23.00	18.50	16.64	15.02	13.58	12.32	11.20
XF-WIND,LB	-11973.	-9728.	-5512.	-3031.	-2314.	-2175.	-2154.	-2256.	-2495.	-2824.
AX,G	-1.3922	-1.1312	-0.6410	-0.3524	-0.2691	-0.2529	-0.2504	-0.2623	-0.2901	-0.3284

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.2446	2.9863	2.8716	2.7442	2.6620	2.5896	2.5214	2.4602	2.3970
PHI,DEG	69.35	69.48	68.69	67.70	66.97	66.25	65.50	64.72	63.81
PSI,DEG	53.03	24.70	14.94	11.11	9.80	8.78	7.98	7.43	7.01
RADIUS,FT	463.1	370.3	517.5	727.6	861.8	1011.5	1179.9	1369.1	1586.9
RATE,D/S	17.75	26.12	22.42	18.61	16.83	15.30	13.93	12.71	11.58
XF-WIND,LB	-23738.	-12758.	-9325.	-7896.	-7409.	-7114.	-6958.	-6998.	-7138.
AX,G	-2.7602	-1.4835	-1.0843	-0.9181	-0.8616	-0.8272	-0.8091	-0.8137	-0.8299

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
PRIMARY MISSION CONFIGURATION WITH LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:41:17 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.6
TOTAL HPREQ	1687.5	1418.3	1119.7	932.3	881.3	887.8	952.2	1161.3	1547.3	1828.8	2049.7
IFUS,DEG	0.14	0.82	0.85	0.51	-0.15	-0.38	-1.14	-2.43	-3.99	-4.89	-5.51

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.6
VKTS,KT	12.7	30.3	47.6	65.5	83.7	88.4	102.3	121.1	140.3	150.0	156.6
VCLMB,FT/MN	1288.	2301.	2613.	2657.	2503.	2444.	2208.	1670.	873.	371.	0.
GAMMA,DEG	90.0	48.6	32.8	23.6	17.2	15.8	12.3	7.8	3.5	1.4	0.0
IFUS,DEG	-0.60	-1.20	-2.30	-3.05	-3.07	-2.90	-1.70	-2.46	-3.95	-4.86	-5.51

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0
VKTS,KT	52.4	67.2	85.5	90.4	105.6	127.1	150.9	164.5	183.7
VCLMB,FT/MN	-3434.	-3071.	-3063.	-3126.	-3451.	-4252.	-5711.	-6843.	-9134.
GAMMA,DEG	-40.3	-26.8	-20.7	-20.0	-18.8	-19.3	-21.9	-24.3	-29.4
IFUS,DEG	0.01	-2.30	-5.29	-5.78	-7.35	-10.01	-13.87	-16.54	-21.61

POWER-LIMITED TURN CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.5
AY,G	0.5216	0.7942	1.0559	1.2829	1.3975	1.4174	1.4552	1.3905	1.1373	0.8564	0.0000
NZ,G	1.1278	1.2770	1.4543	1.6266	1.7184	1.7346	1.7657	1.7128	1.5145	1.3166	1.0000
RADIUS,FT	0.0	44.6	134.2	248.4	405.5	451.3	608.4	916.9	1525.8	2326.2	0.0
RATE,D/S	0.00	43.37	28.83	23.35	19.08	18.21	15.89	12.66	8.87	6.24	0.00
PHI,DEG	27.55	38.46	46.56	52.07	54.42	54.80	55.51	54.30	48.71	40.64	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	156.5
AX,G	0.5216	0.5739	0.5047	0.4078	0.3070	0.2842	0.2213	0.1400	0.0624	0.0246	0.0001
IFUS,DEG	-28.01	-30.20	-27.92	-24.23	-19.53	-18.28	-14.05	-10.33	-7.49	-6.26	-5.52

HORIZONTAL DECELERATION CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2677	-0.2579	-0.2682	-0.2963	-0.3446	-0.3595	-0.3387	-0.3324	-0.3564	-0.3768	-0.4021	-0.4331	-0.4762	-0.5256
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.34	9.81	8.42	7.97	7.64	7.41	7.41	7.47

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4943	2.4709	2.3756	2.2703	2.1442	2.0778	2.0127	1.9500	1.8909	1.8347
PHI,DEG	65.11	65.17	64.68	63.68	62.05	61.08	60.04	58.94	57.79	56.56
PSI,DEG	21.42	16.25	8.00	3.42	1.81	1.35	1.06	0.92	0.94	1.03
RADIUS,FT	287.3	311.1	424.0	632.1	921.3	1101.1	1306.9	1541.5	1807.9	2111.3
RATE,D/S	26.93	26.42	22.81	18.36	14.69	13.17	11.84	10.66	9.63	8.70
XF-WIND,LB	-11973.	-9728.	-5512.	-3031.	-2314.	-2175.	-2154.	-2256.	-2495.	-2824.
AX,G	-1.1534	-0.9372	-0.5310	-0.2920	-0.2230	-0.2096	-0.2075	-0.2173	-0.2403	-0.2720

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.6897	2.4742	2.3792	2.2680	2.2055	2.1455	2.0890	2.0383	1.9857
PHI,DEG	62.18	64.78	63.92	62.63	61.78	60.88	59.93	58.94	57.78
PSI,DEG	49.43	23.80	14.39	10.63	9.37	8.38	7.59	7.04	6.61
RADIUS,FT	659.3	465.9	649.5	918.5	1087.7	1280.5	1498.8	1745.8	2033.7
RATE,D/S	12.47	20.76	17.87	14.74	13.34	12.08	10.97	9.97	9.03
XF-WIND,LB	-23881.	-12758.	-9325.	-7865.	-7409.	-7114.	-6958.	-6997.	-7137.
AX,G	-2.3007	-1.2291	-0.8984	-0.7577	-0.7138	-0.6853	-0.6703	-0.6741	-0.6875

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 32@) FALLOUT VIBRATION, NO CONTINGENCY WT
MINIMUM OPERATING WEIGHT WITH LONGBOW AND EXT STORES
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:42:27 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	151.8
TOTAL HPREQ	1524.6	1282.0	1009.7	853.2	826.7	839.7	924.7	1174.4	1638.2	1981.6	2050.1
IFUS,DEG	0.43	1.06	0.96	0.47	-0.37	-0.65	-1.61	-3.23	-5.28	-6.47	-6.69

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	151.7
VKTS,KT	19.9	34.1	49.7	66.5	84.1	88.6	102.4	121.1	140.2	150.0	151.7
VCLMB,FT/MN	2015.	2800.	2987.	2907.	2630.	2538.	2212.	1626.	688.	108.	0.
GAMMA,DEG	90.0	54.1	36.4	25.6	18.0	16.4	12.3	7.6	2.8	0.4	0.0
IFUS,DEG	-0.72	-1.78	-3.39	-4.63	-5.14	-5.08	-4.12	-3.68	-5.45	-6.50	-6.69

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0
VKTS,KT	52.1	67.5	86.0	91.0	106.6	129.0	155.2	173.6
VCLMB,FT/MN	-3375.	-3121.	-3205.	-3299.	-3734.	-4788.	-6778.	-8859.
GAMMA,DEG	-39.8	-27.2	-21.6	-21.0	-20.2	-21.5	-25.5	-30.3
IFUS,DEG	-0.59	-3.21	-6.41	-6.97	-8.88	-12.25	-17.44	-22.33

POWER-LIMITED TURN CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	151.7
AY,G	0.6935	0.9481	1.2088	1.4404	1.5562	1.5756	1.6095	1.5243	1.2108	0.7786	0.0000
NZ,G	1.2169	1.3780	1.5688	1.7535	1.8498	1.8662	1.8949	1.8231	1.5703	1.2676	1.0000
RADIUS,FT	0.0	37.4	117.2	221.3	364.1	406.0	550.1	836.4	1433.3	2558.6	0.0
RATE,D/S	0.00	51.78	33.01	26.22	21.25	20.25	17.58	13.87	9.45	5.67	0.00
PHI,DEG	34.74	43.47	50.40	55.23	57.28	57.60	58.16	56.76	50.50	38.01	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	151.7
AX,G	0.6936	0.6990	0.5882	0.4570	0.3296	0.3013	0.2249	0.1366	0.0492	0.0071	0.0001
IFUS,DEG	-35.20	-35.42	-32.07	-27.65	-22.43	-21.07	-16.51	-11.36	-8.24	-6.90	-6.69

HORIZONTAL DECELERATION CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2622	-0.2541	-0.2687	-0.3037	-0.3607	-0.3781	-0.3600	-0.3619	-0.3949	-0.4204	-0.4512	-0.4879	-0.5387	-0.5963
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.28	9.83	8.48	8.04	7.72	7.51	7.52	7.60

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.6972	2.6704	2.5652	2.4508	2.3145	2.2429	2.1729	2.1054	2.0420	1.9819
PHI,DEG	67.09	67.12	66.65	65.74	64.25	63.37	62.42	61.43	60.38	59.28
PSI,DEG	21.73	16.47	8.10	3.46	1.82	1.35	1.05	0.91	0.93	1.03
RADIUS,FT	261.5	283.7	386.7	575.9	837.5	999.4	1184.0	1393.8	1631.0	1900.0
RATE,D/S	29.58	28.98	25.00	20.15	16.17	14.51	13.07	11.80	10.67	9.67
XF-WIND,LB	-12095.	-9836.	-5603.	-3121.	-2422.	-2295.	-2286.	-2404.	-2661.	-3010.
AX,G	-1.2573	-1.0225	-0.5824	-0.3245	-0.2518	-0.2385	-0.2377	-0.2499	-0.2766	-0.3129

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.9276	2.6806	2.5748	2.4541	2.3869	2.3224	2.2620	2.2081	2.1528
PHI,DEG	65.64	66.81	65.97	64.79	64.02	63.19	62.33	61.43	60.38
PSI,DEG	51.00	24.14	14.57	10.78	9.51	8.51	7.71	7.16	6.74
RADIUS,FT	555.0	423.6	591.2	835.2	987.8	1161.3	1357.2	1578.2	1834.0
RATE,D/S	14.81	22.83	19.63	16.21	14.68	13.32	12.11	11.03	10.02
XF-WIND,LB	-24036.	-12968.	-9518.	-8077.	-7634.	-7352.	-7212.	-7272.	-7434.
AX,G	-2.4985	-1.3480	-0.9894	-0.8396	-0.7935	-0.7642	-0.7497	-0.7559	-0.7728

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MAX ALTERNATE GROSS WEIGHT [MAGW] WITH LONGBOW AND EXT STORES
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:43:23 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 11790. LB; DOB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.7
TOTAL HPREQ	2076.8	1692.7	1346.4	1107.3	1024.8	1026.6	1082.7	1294.3	1712.3	2025.6	2049.8
IFUS,DEG	-0.50	0.36	0.48	0.26	-0.34	-0.55	-1.28	-2.54	-4.14	-5.09	-5.16

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 11790. LB; DOB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.7
VKTS,KT	23.5	43.8	63.2	82.3	87.1	101.5	120.6	140.1	150.0	150.7
VCLMB,FT/MN	1241.	1803.	2015.	1976.	1943.	1744.	1253.	509.	35.	0.
GAMMA,DEG	31.5	24.0	18.3	13.7	12.7	9.8	5.9	2.1	0.1	0.0
IFUS,DEG	-0.57	-1.35	-1.88	-1.71	-1.52	-1.78	-2.84	-4.24	-5.10	-5.16

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 11790. LB; DOB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0
VKTS,KT	53.6	67.6	85.6	90.4	105.5	126.6	149.5	162.2	177.2
VCLMB,FT/MN	-3615.	-3164.	-3086.	-3127.	-3393.	-4082.	-5323.	-6246.	-7714.
GAMMA,DEG	-41.7	-27.5	-20.9	-20.0	-18.5	-18.6	-20.6	-22.4	-25.5
IFUS,DEG	-0.19	-2.36	-5.14	-5.63	-7.05	-9.41	-12.74	-14.93	-18.19

POWER-LIMITED TURN CAPABILITY
GW = 11790. LB; DOB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.7
AY,G	0.5144	0.7988	1.0233	1.1305	1.1483	1.1791	1.1012	0.8011	0.2610	0.0000
NZ,G	1.1246	1.2799	1.4308	1.5094	1.5227	1.5460	1.4875	1.2813	1.0337	1.0000
RADIUS,FT	68.8	177.3	311.5	501.2	557.1	750.9	1157.8	2166.4	7631.9	0.0
RATE,D/S	28.09	21.81	18.63	15.43	14.75	12.88	10.02	6.25	1.90	0.00
PHI,DEG	27.22	38.62	45.66	48.51	48.96	49.71	47.78	38.75	14.68	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 11790. LB; DOB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.7
AX,G	0.3406	0.3532	0.3063	0.2389	0.2228	0.1731	0.1043	0.0361	0.0023	0.0000
IFUS,DEG	-19.03	-20.22	-18.37	-14.83	-13.83	-11.50	-8.74	-6.30	-5.23	-5.16

HORIZONTAL DECELERATION CAPABILITY
GW = 11790. LB; DOB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2818	-0.2668	-0.2746	-0.2988	-0.3432	-0.3570	-0.3375	-0.3242	-0.3417	-0.3593	-0.3818	-0.4098	-0.4486	-0.4932
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.45	9.75	8.25	7.77	7.41	7.17	7.12	7.14

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.2008	2.1789	2.0931	1.9997	1.8885	1.8301	1.7729	1.7179	1.6662	1.6173
PHI,DEG	61.27	61.42	60.91	59.76	57.83	56.67	55.43	54.11	52.72	51.24
PSI,DEG	20.64	15.68	7.70	3.28	1.71	1.26	0.98	0.84	0.85	0.93
RADIUS,FT	339.2	366.2	498.5	745.0	1092.2	1310.4	1562.0	1851.6	2184.0	2567.1
RATE,D/S	22.81	22.45	19.40	15.58	12.40	11.07	9.91	8.88	7.97	7.16
XF-WIND,LB	-12095.	-9836.	-5602.	-3121.	-2422.	-2295.	-2286.	-2404.	-2661.	-3010.
AX,G	-1.0259	-0.8343	-0.4752	-0.2647	-0.2054	-0.1946	-0.1939	-0.2039	-0.2257	-0.2553

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 2000. FT; TEMP = 70.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.3900	2.1872	2.1008	2.0025	1.9475	1.8949	1.8456	1.8016	1.7553
PHI,DEG	54.41	60.83	59.95	58.46	57.46	56.39	55.26	54.07	52.64
PSI,DEG	44.17	22.86	13.79	10.15	8.92	7.93	7.15	6.60	6.16
RADIUS,FT	888.0	551.9	767.2	1088.8	1293.1	1527.5	1795.0	2100.3	2463.2
RATE,D/S	9.26	17.52	15.13	12.43	11.22	10.13	9.16	8.29	7.46
XF-WIND,LB	-24142.	-12967.	-9517.	-8077.	-7633.	-7352.	-7212.	-7271.	-7429.
AX,G	-2.0477	-1.0999	-0.8072	-0.6851	-0.6474	-0.6235	-0.6117	-0.6167	-0.6301

SLS

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MININUM OPERATING WEIGHT W/O LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:34:17 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 8260. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	169.6
TOTAL HPREQ	1232.1	1024.6	801.4	695.3	688.5	701.0	772.2	960.5	1276.5	1490.7	1752.8	2050.0
IFUS,DEG	0.99	1.62	1.51	1.03	0.35	0.15	-0.52	-1.54	-2.66	-3.23	-3.83	-4.41

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 8260. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	169.6
VKTS,KT	33.9	45.0	57.2	72.0	88.3	92.5	105.4	123.2	141.3	150.6	160.2	169.6
VCLMB,FT/MN	3429.	4084.	4144.	4031.	3780.	3691.	3358.	2837.	1953.	1393.	737.	0.
GAMMA,DEG	90.0	63.6	45.6	33.6	25.0	23.2	18.3	13.1	7.8	5.2	2.6	0.0
IFUS,DEG	-1.10	-1.76	-2.94	-3.58	-3.32	-3.03	-1.25	1.18	-0.62	-1.74	-3.01	-4.41

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 8260. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0
VKTS,KT	50.4	66.5	85.4	90.4	105.9	128.2	154.1	171.3
VCLMB,FT/MN	-3112.	-2904.	-3021.	-3111.	-3539.	-4567.	-6527.	-8378.
GAMMA,DEG	-37.5	-25.5	-20.5	-19.9	-19.3	-20.6	-24.7	-28.9
IFUS,DEG	1.15	-1.37	-4.79	-5.42	-7.25	-10.45	-15.40	-19.60

POWER-LIMITED TURN CAPABILITY
GW = 8260. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	169.6
AY,G	1.0820	1.3376	1.6329	1.9013	2.0599	2.0892	2.1563	2.1106	1.8995	1.7116	1.4143	0.0000
NZ,G	1.4733	1.6701	1.9148	2.1483	2.2899	2.3162	2.3769	2.3355	2.1467	1.9824	1.7321	1.0000
RADIUS,FT	0.0	26.5	86.8	167.6	275.1	306.2	410.6	604.1	913.6	1163.9	1602.7	0.0
RATE,D/S	0.00	73.05	44.59	34.61	28.12	26.85	23.55	19.21	14.82	12.46	9.65	0.00
PHI,DEG	47.26	53.22	58.52	62.26	64.11	64.42	65.12	64.65	62.24	59.72	54.76	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 8260. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	169.4
AX,G	1.0819	1.0094	0.8245	0.6377	0.4768	0.4422	0.3457	0.2438	0.1429	0.0943	0.0462	0.0011
IFUS,DEG	-47.69	-45.57	-40.53	-34.42	-27.81	-26.10	-20.28	-12.33	-8.61	-7.04	-5.63	-4.44

HORIZONTAL DECELERATION CAPABILITY
GW = 8260. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2511	-0.2426	-0.2552	-0.2865	-0.3362	-0.3512	-0.3384	-0.3446	-0.3803	-0.4070	-0.4388	-0.4757	-0.5275	-0.5870
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.62	10.47	9.34	9.01	8.79	8.65	8.77	8.98

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 8260. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.4355	3.3996	3.2840	3.1352	2.9638	2.8730	2.7841	2.6981	2.6168	2.5379
PHI,DEG	72.36	72.33	71.99	71.29	70.19	69.54	68.85	68.13	67.38	66.59
PSI,DEG	27.86	20.60	9.94	4.47	2.73	2.22	1.88	1.73	1.74	1.84
RADIUS,FT	206.7	219.2	292.7	433.4	625.9	743.9	877.3	1027.5	1195.8	1384.9
RATE,D/S	37.43	37.50	33.03	26.78	21.63	19.50	17.64	16.00	14.56	13.27
XF-WIND,LB	-14973.	-11804.	-6591.	-3457.	-2578.	-2363.	-2274.	-2318.	-2510.	-2793.
AX,G	-1.8127	-1.4290	-0.7979	-0.4185	-0.3121	-0.2861	-0.2753	-0.2806	-0.3038	-0.3381

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 8260. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.3650	3.2483	3.1054	3.0119	2.9287	2.8506	2.7768	2.7082
PHI,DEG	72.23	71.51	70.65	70.02	69.41	68.79	68.12	67.42
PSI,DEG	25.80	15.28	11.42	10.12	9.13	8.35	7.83	7.46
RADIUS,FT	319.0	444.0	623.4	737.2	863.9	1005.4	1164.8	1342.4
RATE,D/S	30.31	26.14	21.72	19.68	17.91	16.35	14.94	13.69
XF-WIND,LB	-13371.	-9432.	-7813.	-7245.	-6877.	-6656.	-6634.	-6734.
AX,G	-1.6188	-1.1419	-0.9459	-0.8771	-0.8325	-0 8058	-0.8032	-0.8153

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
PRIMARY MISSION GROSS WEIGHT [PMGW] W/O LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:35:28 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.8
TOTAL HPREQ	1546.9	1296.3	1013.1	848.7	806.8	812.5	867.0	1036.3	1333.9	1537.8	1786.3	2050.1
IFUS,DEG	0.39	1.08	1.16	0.91	0.39	0.24	-0.29	-1.13	-2.09	-2.58	-3.10	-3.58

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.8
VKTS,KT	15.6	34.8	50.6	67.7	85.5	90.0	103.7	122.2	140.9	150.4	160.1	168.8
VCLMB,FT/MN	1987.	2883.	3132.	3169.	3066.	3009.	2791.	2312.	1584.	1117.	568.	0.
GAMMA,DEG	90.0	54.9	37.7	27.5	20.7	19.3	15.4	10.8	6.4	4.2	2.0	0.0
IFUS,DEG	-0.72	-1.02	-1.63	-1.71	-0.95	-0.54	1.34	0.79	-0.61	-1.50	-2.53	-3.58

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0
VKTS,KT	51.1	66.2	84.7	89.6	104.7	125.9	148.8	161.4	176.4
VCLMB,FT/MN	-3215.	-2840.	-2811.	-2863.	-3143.	-3857.	-5109.	-6033.	-7520.
GAMMA,DEG	-38.4	-25.1	-19.1	-18.4	-17.2	-17.6	-19.8	-21.7	-24.9
IFUS,DEG	1.41	-0.77	-3.78	-4.20	-5.59	-7.95	-11.20	-13.33	-16.55

POWER-LIMITED TURN CAPABILITY
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.8
AY,G	0.6977	0.9543	1.2295	1.4701	1.6099	1.6355	1.6941	1.6542	1.4685	1.3006	1.0272	0.0000
NZ,G	1.2193	1.3823	1.5849	1.7780	1.8952	1.9170	1.9672	1.9330	1.7767	1.6406	1.4336	1.0000
RADIUS,FT	0.0	37.1	115.2	216.8	352.0	391.1	522.6	770.8	1181.8	1531.7	2206.6	0.0
RATE,D/S	0.00	52.11	33.57	26.76	21.98	21.02	18.50	15.06	11.46	9.47	7.01	0.00
PHI,DEG	34.91	43.66	50.88	55.78	58.16	58.56	59.45	58.85	55.76	52.46	45.79	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.8
AX,G	0.6977	0.6988	0.5971	0.4802	0.3722	0.3482	0.2788	0.1946	0.1142	0.0748	0.0354	0.0000
IFUS,DEG	-35.35	-35.18	-31.50	-26.60	-21.01	-19.54	-14.42	-10.15	-7.06	-5.75	-4.55	-3.58

HORIZONTAL DECELERATION CAPABILITY
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2629	-0.2523	-0.2592	-0.2823	-0.3226	-0.3351	-0.3083	-0.3031	-0.3259	-0.3452	-0.3691	-0.3976	-0.4393	-0.4867
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.26	10.00	8.79	8.42	8.16	7.98	8.06	8.21

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.8431	2.8137	2.7180	2.5923	2.4530	2.3779	2.3042	2.2331	2.1658	2.1004
PHI,DEG	68.37	68.41	68.05	67.16	65.83	65.02	64.16	63.25	62.31	61.30
PSI,DEG	27.10	20.08	9.69	4.33	2.65	2.14	1.82	1.66	1.67	1.76
RADIUS,FT	257.7	272.3	362.9	538.7	780.0	929.0	1098.5	1290.3	1506.2	1750.6
RATE,D/S	30.02	30.18	26.65	21.54	17.36	15.61	14.09	12.74	11.56	10.50
XF-WIND,LB	-14964.	-11803.	-6590.	-3438.	-2578.	-2363.	-2274.	-2318.	-2510.	-2792.
AX,G	-1.4994	-1.1827	-0.6604	-0.3445	-0.2583	-0.2368	-0.2278	-0.2322	-0.2515	-0.2798

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 9980. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.7850	2.6882	2.5702	2.4928	2.4239	2.3585	2.2986	2.2330
PHI,DEG	68.23	67.42	66.37	65.59	64.84	64.04	63.22	62.23
PSI,DEG	25.11	14.87	11.09	9.81	8.82	8.05	7.53	7.13
RADIUS,FT	397.5	552.1	776.6	920.2	1080.5	1260.9	1463.7	1700.2
RATE,D/S	24.33	21.02	17.43	15.76	14.32	13.04	11.89	10.81
XF-WIND,LB	-13370.	-9431.	-7813.	-7245.	-6877.	-6653.	-6635.	-6710.
AX,G	-1.3397	-0.9450	-0.7829	-0.7260	-0.6890	-0.6666	-0.6649	-0.6724

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.7548	2.7263	2.6336	2.5118	2.3768	2.3040	2.2326	2.1638	2.0985	2.0351
PHI,DEG	67.61	67.67	67.30	66.39	65.00	64.16	63.26	62.32	61.34	60.29
PSI,DEG	26.94	19.97	9.64	4.30	2.63	2.13	1.80	1.65	1.65	1.74
RADIUS,FT	267.8	282.7	376.6	559.2	810.3	965.7	1142.5	1342.8	1568.6	1824.7
RATE,D/S	28.89	29.07	25.68	20.75	16.71	15.02	13.54	12.24	11.10	10.07
XF-WIND,LB	-14965.	-11803.	-6590.	-3438.	-2578.	-2363.	-2274.	-2318.	-2510.	-2792.
AX,G	-1.4529	-1.1459	-0.6399	-0.3338	-0.2503	-0.2295	-0.2208	-0.2250	-0.2436	-0.2711

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.6984	2.6047	2.4903	2.4154	2.3486	2.2852	2.2272	2.1634
PHI,DEG	67.47	66.64	65.55	64.75	63.96	63.14	62.29	61.25
PSI,DEG	24.97	14.78	11.01	9.74	8.76	7.98	7.47	7.07
RADIUS,FT	413.0	573.3	806.8	956.3	1123.5	1311.8	1523.6	1771.4
RATE,D/S	23.42	20.24	16.78	15.17	13.77	12.53	11.42	10.37
XF-WIND,LB	-13370.	-9431.	-7813.	-7245.	-6877.	-6653.	-6635.	-6710.
AX,G	-1.2980	-0.9156	-0.7586	-0.7034	-0.6676	-0.6459	-0.6442	-0.6514

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
ATTACK MISSION GROSS WEIGHT [AMGW] W/O LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:36:45 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.6
TOTAL HPREQ	1608.4	1350.6	1056.5	880.6	831.5	835.9	887.0	1052.7	1347.1	1549.2	1795.8	2050.0
IFUS,DEG	0.27	0.98	1.09	0.87	0.39	0.24	-0.26	-1.08	-2.01	-2.49	-3.00	-3.46

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.6
VKTS,KT	16.8	33.0	49.5	67.0	85.1	89.6	103.5	122.0	140.8	150.4	160.1	168.6
VCLMB,FT/MN	1701.	2656.	2947.	3015.	2938.	2885.	2687.	2221.	1520.	1067.	535.	0.
GAMMA,DEG	90.0	52.7	36.0	26.4	19.9	18.5	14.9	10.4	6.1	4.0	1.9	0.0
IFUS,DEG	-0.66	-0.89	-1.42	-1.43	-0.61	-0.21	1.60	0.72	-0.62	-1.48	-2.48	-3.46

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0
VKTS,KT	51.2	66.2	84.6	89.5	104.6	125.6	148.2	160.6	174.7	197.4
VCLMB,FT/MN	-3244.	-2842.	-2791.	-2837.	-3095.	-3767.	-4933.	-5804.	-7112.	-10160.
GAMMA,DEG	-38.7	-25.1	-19.0	-18.2	-17.0	-17.2	-19.2	-20.9	-23.7	-30.5
IFUS,DEG	1.44	-0.69	-3.63	-4.04	-5.38	-7.62	-10.66	-12.67	-15.51	-21.73

POWER-LIMITED TURN CAPABILITY
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.6
AY,G	0.6292	0.8909	1.1653	1.4028	1.5402	1.5653	1.6227	1.5836	1.4012	1.2356	0.9641	0.0000
NZ,G	1.1815	1.3393	1.5356	1.7228	1.8364	1.8575	1.9061	1.8729	1.7215	1.5896	1.3890	1.0000
RADIUS,FT	0.0	39.8	121.6	227.2	367.9	408.7	545.6	805.1	1238.5	1612.2	2351.1	0.0
RATE,D/S	0.00	48.65	31.82	25.54	21.03	20.11	17.72	14.41	10.93	9.00	6.58	0.00
PHI,DEG	32.18	41.70	49.37	54.52	57.01	57.43	58.36	57.73	54.50	51.03	43.97	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.6
AX,G	0.6292	0.6469	0.5603	0.4549	0.3550	0.3328	0.2676	0.1865	0.1094	0.0714	0.0333	0.0000
IFUS,DEG	-32.62	-33.11	-29.84	-25.24	-19.88	-18.46	-13.49	-9.78	-6.80	-5.53	-4.37	-3.46

HORIZONTAL DECELERATION CAPABILITY
GW = 10300. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2651	-0.2541	-0.2601	-0.2818	-0.3207	-0.3328	-0.3046	-0.2976	-0.3184	-0.3366	-0.3593	-0.3866	-0.4267	-0.4723
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.24	9.95	8.72	8.35	8.08	7.90	7.97	8.10

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MAX OPERATING WEIGHT W/O LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:37:46 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.1
TOTAL HPREQ	1724.5	1448.2	1135.4	939.2	876.7	878.7	923.9	1083.2	1372.0	1571.1	1814.5	2050.0
IFUS,DEG	0.08	0.80	0.97	0.81	0.38	0.24	-0.23	-1.00	-1.88	-2.35	-2.84	-3.26

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.1
VKTS,KT	11.8	29.9	47.7	65.9	84.4	89.0	103.0	121.7	140.7	150.3	160.1	168.1
VCLMB,FT/MN	1195.	2257.	2626.	2752.	2720.	2679.	2500.	2069.	1410.	981.	476.	0.
GAMMA,DEG	90.0	48.1	33.0	24.4	18.6	17.3	13.9	9.7	5.7	3.7	1.7	0.0
IFUS,DEG	-0.57	-0.69	-1.09	-0.99	-0.09	0.32	1.41	0.60	-0.65	-1.45	-2.39	-3.26

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0
VKTS,KT	51.6	66.3	84.5	89.4	104.4	125.2	147.5	159.4	172.6	190.0
VCLMB,FT/MN	-3301.	-2853.	-2765.	-2801.	-3026.	-3628.	-4691.	-5466.	-6554.	-8603.
GAMMA,DEG	-39.2	-25.2	-18.8	-18.0	-16.6	-16.6	-18.3	-19.8	-22.0	-26.6
IFUS,DEG	1.50	-0.56	-3.40	-3.80	-5.04	-7.10	-9.89	-11.69	-14.05	-18.25

POWER-LIMITED TURN CAPABILITY
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.1
AY,G	0.5056	0.7831	1.0586	1.2922	1.4259	1.4503	1.5060	1.4681	1.2906	1.1282	0.8592	0.0000
NZ,G	1.1205	1.2701	1.4562	1.6339	1.7417	1.7617	1.8078	1.7763	1.6327	1.5077	1.3188	1.0000
RADIUS,FT	0.0	45.2	133.8	246.7	397.4	441.1	587.9	868.5	1344.7	1765.8	2638.0	0.0
RATE,D/S	0.00	42.77	28.90	23.52	19.47	18.64	16.45	13.36	10.07	8.21	5.87	0.00
PHI,DEG	26.82	38.06	46.63	52.27	54.96	55.42	56.42	55.75	52.24	48.46	40.71	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	168.1
AX,G	0.5056	0.5584	0.4989	0.4128	0.3265	0.3069	0.2478	0.1731	0.1012	0.0655	0.0296	0.0000
IFUS,DEG	-27.26	-29.36	-26.96	-22.93	-17.99	-16.65	-12.54	-9.17	-6.37	-5.17	-4.07	-3.26

HORIZONTAL DECELERATION CAPABILITY
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2691	-0.2573	-0.2618	-0.2813	-0.3176	-0.3290	-0.2994	-0.2892	-0.3068	-0.3232	-0.3439	-0.3694	-0.4067	-0.4495
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.22	9.88	8.62	8.23	7.95	7.77	7.82	7.93

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.6128	2.5857	2.4978	2.3822	2.2542	2.1852	2.1175	2.0522	1.9903	1.9302
PHI,DEG	66.26	66.35	65.98	65.02	63.54	62.64	61.68	60.68	59.63	58.50
PSI,DEG	26.66	19.76	9.54	4.26	2.60	2.10	1.78	1.62	1.63	1.71
RADIUS,FT	285.9	301.4	401.2	596.1	865.0	1031.8	1222.1	1438.1	1682.3	1960.0
RATE,D/S	27.06	27.27	24.10	19.47	15.65	14.06	12.66	11.43	10.35	9.37
XF-WIND,LB	-14967.	-11803.	-6590.	-3438.	-2578.	-2363.	-2274.	-2318.	-2510.	-2792.
AX,G	-1.3781	-1.0868	-0.6069	-0.3166	-0.2374	-0.2176	-0.2094	-0.2134	-0.2311	-0.2571

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 10860. LB; DQB = 2.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.5592	2.4701	2.3561	2.2908	2.2275	2.1674	2.1123	2.0514
PHI,DEG	66.11	65.26	64.05	63.26	62.42	61.54	60.63	59.51
PSI,DEG	24.70	14.62	10.85	9.61	8.64	7.87	7.35	6.95
RADIUS,FT	440.8	611.5	863.6	1021.6	1201.2	1403.9	1632.3	1901.1
RATE,D/S	21.94	18.98	15.68	14.20	12.88	11.71	10.66	9.66
XF-WIND,LB	-13369.	-9429.	-7782.	-7245.	-6876.	-6653.	-6635.	-6708.
AX,G	-1.2310	-0.8682	-0.7166	-0.6672	-0.6332	-0.6126	-0.6110	-0.6177

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MINIMUM OPERATING WEIGHT W/O LONGBOW [WITH EXT STORES]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:38:47 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	164.2
TOTAL HPREQ	1414.5	1181.7	923.6	786.7	765.0	775.5	846.9	1045.8	1387.8	1624.8	1913.0	2050.0
IFUS,DEG	0.63	1.28	1.25	0.85	0.20	0.01	-0.67	-1.74	-2.94	-3.58	-4.24	-4.52

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	164.2
VKTS,KT	25.6	38.4	52.7	68.8	86.0	90.4	103.8	122.1	140.7	150.3	160.0	164.2
VCLMB,FT/MN	2597.	3323.	3467.	3405.	3199.	3118.	2832.	2301.	1453.	918.	292.	0.
GAMMA,DEG	90.0	58.6	40.6	29.3	21.5	19.9	15.6	10.7	5.9	3.5	1.0	0.0
IFUS,DEG	-0.86	-1.52	-2.58	-3.12	-2.78	-2.47	-0.71	-0.14	-1.79	-2.81	-3.98	-4.52

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0
VKTS,KT	50.9	66.5	85.2	90.2	105.6	127.5	152.3	167.3
VCLMB,FT/MN	-3181.	-2905.	-2968.	-3048.	-3431.	-4363.	-6065.	-7514.
GAMMA,DEG	-38.1	-25.6	-20.1	-19.5	-18.7	-19.8	-23.2	-26.3
IFUS,DEG	0.83	-1.61	-4.86	-5.37	-7.08	-10.04	-14.41	-17.75

POWER-LIMITED TURN CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	164.2
AY,G	0.8483	1.0998	1.3795	1.6275	1.7704	1.7959	1.8519	1.7948	1.5686	1.3579	0.9666	0.0000
NZ,G	1.3113	1.4865	1.7039	1.9102	2.0333	2.0556	2.1046	2.0547	1.8603	1.6865	1.3908	1.0000
RADIUS,FT	0.0	32.2	102.7	195.8	320.1	356.2	478.1	710.4	1106.3	1467.1	2345.0	0.0
RATE,D/S	0.00	60.06	37.67	29.63	24.17	23.08	20.23	16.34	12.24	9.89	6.60	0.00
PHI,DEG	40.31	47.72	54.06	58.43	60.54	60.89	61.64	60.88	57.50	53.66	44.07	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	164.2
AX,G	0.8483	0.8159	0.6776	0.5292	0.3970	0.3683	0.2872	0.1948	0.1051	0.0615	0.0181	0.0000
IFUS,DEG	-40.75	-39.54	-35.16	-29.72	-23.71	-22.14	-16.72	-11.04	-7.71	-6.29	-5.02	-4.52

HORIZONTAL DECELERATION CAPABILITY
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2581	-0.2491	-0.2601	-0.2897	-0.3384	-0.3532	-0.3314	-0.3340	-0.3659	-0.3903	-0.4198	-0.4540	-0.5035	-0.5593
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.30	10.08	8.91	8.55	8.30	8.13	8.23	8.39

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.0669	3.0324	2.9258	2.7892	2.6392	2.5584	2.4793	2.4031	2.3311	2.2614
PHI,DEG	70.01	70.02	69.66	68.84	67.62	66.87	66.08	65.26	64.39	63.47
PSI,DEG	27.37	20.26	9.77	4.36	2.65	2.15	1.82	1.66	1.66	1.76
RADIUS,FT	236.3	250.2	333.7	495.0	715.6	851.6	1005.8	1180.0	1375.6	1596.4
RATE,D/S	32.73	32.86	28.98	23.44	18.92	17.03	15.38	13.93	12.65	11.51
XF-WIND,LB	-15127.	-11944.	-6701.	-3545.	-2705.	-2503.	-2429.	-2491.	-2704.	-3011.
AX,G	-1.6301	-1.2871	-0.7221	-0.3820	-0.2915	-0.2698	-0.2617	-0.2684	-0.2914	-0.3244

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 9280. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.0075	2.8993	2.7714	2.6882	2.6144	2.5444	2.4804	2.4114
PHI,DEG	69.87	69.09	68.12	67.40	66.71	65.98	65.22	64.31
PSI,DEG	25.34	14.96	11.18	9.89	8.90	8.12	7.60	7.21
RADIUS,FT	364.7	586.9	712.8	843.8	990.0	1154.2	1338.6	1552.6
RATE,D/S	26.52	22.89	18.99	17.19	15.63	14.24	13.00	11.83
XF-WIND,LB	-13608.	-9647.	-8051.	-7497.	-7144.	-6939.	-6944.	-7047.
AX,G	-1.4664	-1.0395	-0.8676	-0.8078	-0.7699	-0.7478	-0.7483	-0.7593

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MAX ALTERNATE CONFIGURATION W/O LONGBOW [WITH EXT STORES]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:39:46 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	162.8
TOTAL HPREQ	1859.2	1554.9	1223.6	1008.4	936.6	937.8	985.9	1158.2	1473.9	1695.6	1966.4	2050.4
IFUS,DEG	-0.14	0.61	0.78	0.64	0.20	0.05	-0.47	-1.31	-2.30	-2.84	-3.40	-3.56

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	162.8
VKTS,KT	6.5	26.8	45.8	64.6	83.5	88.2	102.3	121.3	140.4	150.1	160.0	162.8
VCLMB,FT/MN	660.	1811.	2257.	2424.	2407.	2378.	2195.	1761.	1096.	664.	154.	0.
GAMMA,DEG	90.0	41.8	29.1	21.8	16.5	15.4	12.2	8.2	4.4	2.5	0.5	0.0
IFUS,DEG	-0.50	-0.60	-1.04	-1.02	-0.22	0.17	0.54	-0.29	-1.54	-2.35	-3.28	-3.55

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0
VKTS,KT	52.1	66.6	84.7	89.6	104.5	125.4	147.8	159.8	173.3	191.6
VCLMB,FT/MN	-3378.	-2916.	-2821.	-2857.	-3087.	-3703.	-4793.	-5592.	-6742.	-8959.
GAMMA,DEG	-39.8	-25.6	-19.2	-18.4	-17.0	-16.9	-18.7	-20.2	-22.6	-27.5
IFUS,DEG	1.11	-0.97	-3.80	-4.19	-5.45	-7.56	-10.44	-12.31	-14.82	-19.41

POWER-LIMITED TURN CAPABILITY
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	162.7
AY,G	0.3600	0.6716	0.9519	1.1819	1.3098	1.3325	1.3819	1.3314	1.1281	0.9316	0.5202	0.0000
NZ,G	1.0628	1.2046	1.3806	1.5482	1.6480	1.6660	1.7057	1.6652	1.5076	1.3668	1.1273	1.0000
RADIUS,FT	0.0	52.7	148.8	269.7	432.6	480.1	640.7	957.6	1538.3	2138.4	4357.5	0.0
RATE,D/S	0.00	36.68	25.99	21.51	17.88	17.12	15.09	12.12	8.80	6.78	3.55	0.00
PHI,DEG	19.80	33.88	43.59	49.77	52.64	53.12	54.11	53.10	48.46	43.00	27.52	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	162.7
AX,G	0.3600	0.4656	0.4342	0.3650	0.2894	0.2718	0.2174	0.1469	0.0783	0.0441	0.0095	0.0000
IFUS,DEG	-20.24	-25.14	-23.94	-20.62	-16.17	-14.93	-11.72	-8.60	-5.99	-4.86	-3.82	-3.56

HORIZONTAL DECELERATION CAPABILITY
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2734	-0.2612	-0.2660	-0.2860	-0.3238	-0.3357	-0.3061	-0.2952	-0.3128	-0.3294	-0.3504	-0.3763	-0.4139	-0.4569
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.19	9.78	8.48	8.07	7.77	7.58	7.61	7.70

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4858	2.4577	2.3713	2.2627	2.1390	2.0736	2.0094	1.9476	1.8893	1.8328
PHI,DEG	64.79	64.94	64.58	63.58	61.97	61.01	59.99	58.90	57.77	56.56
PSI,DEG	26.29	19.49	9.41	4.20	2.53	2.04	1.72	1.56	1.56	1.64
RADIUS,FT	305.9	321.8	427.9	635.7	925.0	1104.7	1310.2	1544.2	1809.4	2112.3
RATE,D/S	25.29	25.54	22.60	18.26	14.64	13.13	11.81	10.65	9.62	8.70
XF-WIND,LB	-15134.	-11943.	-6701.	-3561.	-2705.	-2503.	-2429.	-2491.	-2704.	-3010.
AX,G	-1.3217	-1.0431	-0.5853	-0.3110	-0.2363	-0.2186	-0.2121	-0.2176	-0.2361	-0.2629

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 11450. LB; DQB = 3.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4374	2.3498	2.2407	2.1787	2.1188	2.0622	2.0107	1.9618
PHI,DEG	64.65	63.79	62.58	61.66	60.76	59.82	58.83	57.77
PSI,DEG	24.32	14.36	10.65	9.42	8.45	7.68	7.16	6.77
RADIUS,FT	471.3	653.0	923.6	1093.6	1287.3	1506.4	1754.0	2034.9
RATE,D/S	20.52	17.77	14.66	13.26	12.02	10.91	9.92	9.03
XF-WIND,LB	-13687.	-9647.	-8019.	-7497.	-7144.	-6939.	-6946.	-7071.
AX,G	-1.1884	-0.8425	-0.7004	-0.6547	-0.6239	-0.6060	-0.6066	-0.6175

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MININUM OPERATING WEIGHT WITH LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:40:49 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.1
TOTAL HPREQ	1291.3	1076.0	844.7	738.1	748.5	769.2	879.1	1164.5	1675.0	2043.8	2050.0
IFUS,DEG	0.87	1.44	1.20	0.54	-0.46	-0.78	-1.85	-3.60	-5.73	-6.93	-6.95

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.1
VKTS,KT	31.2	40.9	53.7	68.8	85.3	89.6	102.8	121.3	140.2	150.0	150.1
VCLMB,FT/MN	3160.	3618.	3628.	3400.	2987.	2857.	2419.	1796.	700.	12.	0.
GAMMA,DEG	90.0	60.8	41.9	29.2	20.2	18.4	13.4	8.4	2.8	0.0	0.0
IFUS,DEG	-1.01	-2.53	-4.61	-6.24	-7.01	-6.98	-5.75	-3.55	-5.65	-6.93	-6.95

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0
VKTS,KT	51.1	67.4	86.6	91.8	108.0	132.7
VCLMB,FT/MN	-3217.	-3118.	-3367.	-3511.	-4141.	-5735.
GAMMA,DEG	-38.5	-27.2	-22.6	-22.2	-22.2	-25.3
IFUS,DEG	-0.77	-3.84	-7.58	-8.30	-10.77	-15.63

POWER-LIMITED TURN CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.2
AY,G	1.0011	1.2540	1.5411	1.7957	1.9359	1.9588	2.0002	1.8855	1.5105	0.9575	0.0000
NZ,G	1.4150	1.6039	1.8371	2.0554	2.1790	2.1993	2.2362	2.1342	1.8115	1.3845	1.0001
RADIUS,FT	0.0	28.2	91.9	177.5	292.7	326.6	442.7	676.2	1148.9	2080.6	0.0
RATE,D/S	0.00	68.48	42.08	32.69	26.43	25.17	21.85	17.16	11.78	6.97	0.00
PHI,DEG	45.03	51.43	57.02	60.89	62.69	62.96	63.44	62.08	56.53	43.85	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.0
AX,G	1.0011	0.9357	0.7512	0.5575	0.3867	0.3498	0.2510	0.1535	0.0502	0.0007	0.0007
IFUS,DEG	-45.48	-43.61	-38.82	-33.01	-26.72	-25.08	-19.46	-12.09	-8.50	-6.97	-6.97

HORIZONTAL DECELERATION CAPABILITY
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2535	-0.2473	-0.2669	-0.3102	-0.3771	-0.3972	-0.3846	-0.4021	-0.4524	-0.4874	-0.5286	-0.5755	-0.6402	-0.7135
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.30	10.11	8.95	8.59	8.35	8.18	8.28	8.45

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.3379	3.2914	3.1656	3.0171	2.8518	2.7647	2.6797	2.5982	2.5219	2.4488
PHI,DEG	71.56	71.55	71.21	70.48	69.33	68.64	67.92	67.16	66.37	65.52
PSI,DEG	27.54	20.33	9.79	4.35	2.61	2.09	1.75	1.59	1.59	1.68
RADIUS,FT	216.4	229.4	306.3	453.6	655.6	779.5	919.9	1078.2	1255.8	1455.7
RATE,D/S	35.75	35.84	31.58	25.58	20.65	18.61	16.82	15.25	13.86	12.62
XF-WIND,LB	-15586.	-12328.	-7003.	-3857.	-3052.	-2885.	-2852.	-2962.	-3232.	-3604.
AX,G	-1.8123	-1.4335	-0.8144	-0.4485	-0.3548	-0.3355	-0.3316	-0.3445	-0.3759	-0.4191

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 8600. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	3.2828	3.1539	3.0133	2.9237	2.8449	2.7710	2.7047	2.6438
PHI,DEG	71.41	70.68	69.78	69.12	68.48	67.81	67.11	66.37
PSI,DEG	25.39	14.90	11.16	9.86	8.86	8.07	7.55	7.17
RADIUS,FT	334.0	464.6	653.2	772.9	906.2	1055.8	1223.6	1411.4
RATE,D/S	28.96	24.98	20.73	18.77	17.07	15.57	14.23	13.02
XF-WIND,LB	-14256.	-10232.	-8696.	-8179.	-7870.	-7716.	-7783.	-7981.
AX,G	-1.6577	-1.1898	-1.0112	-0.9510	-0.9151	-0.8972	-0.9050	-0.9280

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
PRIMARY MISSION CONFIGURATION WITH LONGBOW [CLEAN]
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:41:59 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.8
TOTAL HPREQ	1625.3	1364.7	1071.7	903.8	874.8	888.2	977.0	1232.3	1689.8	2021.5	2049.9
IFUS,DEG	0.25	0.90	0.87	0.46	-0.30	-0.55	-1.40	-2.82	-4.52	-5.50	-5.57

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.8
VKTS,KT	16.1	31.7	48.2	65.6	83.7	88.3	102.2	120.9	140.1	150.0	150.8
VCLMB,FT/MN	1629.	2485.	2717.	2690.	2486.	2408.	2136.	1512.	614.	47.	0.
GAMMA,DEG	90.0	50.8	33.9	23.9	17.1	15.6	11.9	7.1	2.5	0.2	0.0
IFUS,DEG	-0.65	-1.44	-2.66	-3.44	-3.38	-3.13	-1.54	-2.74	-4.44	-5.49	-5.57

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0
VKTS,KT	51.7	67.0	85.6	90.6	106.1	128.4	154.2	171.2
VCLMB,FT/MN	-3310.	-3029.	-3095.	-3183.	-3601.	-4622.	-6544.	-8366.
GAMMA,DEG	-39.3	-26.5	-20.9	-20.3	-19.6	-20.8	-24.8	-28.8
IFUS,DEG	-0.26	-2.84	-5.99	-6.52	-8.35	-11.60	-16.59	-20.86

POWER-LIMITED TURN CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.8
AY,G	0.6119	0.8751	1.1475	1.3784	1.5030	1.5232	1.5596	1.4583	1.1192	0.5615	0.0000
NZ,G	1.1724	1.3288	1.5222	1.7029	1.8053	1.8221	1.8527	1.7682	1.5009	1.1469	1.0000
RADIUS,FT	0.0	40.5	123.5	231.2	377.0	420.0	567.7	874.3	1550.6	3547.7	0.0
RATE,D/S	0.00	47.79	31.33	25.09	20.52	19.57	17.03	13.27	8.73	4.09	0.00
PHI,DEG	31.46	41.19	48.93	54.04	56.37	56.72	57.34	55.58	48.26	29.40	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	150.7
AX,G	0.6119	0.6300	0.5362	0.4192	0.3079	0.2832	0.2148	0.1270	0.0438	0.0031	0.0001
IFUS,DEG	-31.91	-32.61	-29.51	-25.08	-19.87	-18.47	-13.60	-9.88	-6.93	-5.66	-5.57

HORIZONTAL DECELERATION CAPABILITY
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2656	-0.2569	-0.2696	-0.3025	-0.3570	-0.3737	-0.3479	-0.3511	-0.3851	-0.4110	-0.4421	-0.4787	-0.5299	-0.5979
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.04	9.72	8.47	8.08	7.79	7.60	7.65	7.76

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.7652	2.7269	2.6227	2.4971	2.3627	2.2906	2.2202	2.1526	2.0894	2.0288
PHI,DEG	67.38	67.46	67.10	66.18	64.78	63.92	63.02	62.06	61.06	59.99
PSI,DEG	26.72	19.77	9.52	4.20	2.52	2.02	1.69	1.52	1.52	1.60
RADIUS,FT	270.3	285.3	380.2	564.6	818.4	975.6	1154.6	1357.6	1586.7	1846.8
RATE,D/S	28.62	28.81	25.44	20.55	16.54	14.87	13.40	12.11	10.97	9.95
XF-WIND,LB	-15578.	-12327.	-7003.	-3837.	-3052.	-2885.	-2852.	-2962.	-3232.	-3604.
AX,G	-1.5007	-1.1876	-0.6747	-0.3697	-0.2940	-0.2780	-0.2748	-0.2854	-0.3114	-0.3472

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 10380. LB; DQB = 8.20 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.7197	2.6128	2.4905	2.4224	2.3570	2.2958	2.2412	2.1818
PHI,DEG	67.22	66.41	65.25	64.50	63.70	62.86	61.98	60.92
PSI,DEG	24.65	14.45	10.77	9.52	8.53	7.76	7.23	6.83
RADIUS,FT	416.9	578.6	817.5	966.7	1136.1	1327.0	1542.1	1794.4
RATE,D/S	23.20	20.06	16.56	15.01	13.62	12.39	11.29	10.24
XF-WIND,LB	-14255.	-10230.	-8663.	-8179.	-7870.	-7715.	-7784.	-7954.
AX,G	-1.3733	-0.9856	-0.8346	-0.7879	-0.7582	-0.7433	-0.7499	-0.7663

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MININUM OPERATING WEIGHT WITH LONGBOW AND EXT STORES
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:43:03 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	146.1
TOTAL HPREQ	1476.4	1237.1	971.1	832.9	828.9	848.1	958.8	1259.4	1813.1	2050.0
IFUS,DEG	0.49	1.12	0.96	0.39	-0.57	-0.88	-1.94	-3.71	-5.98	-6.76

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	146.1
VKTS,KT	22.8	35.2	50.1	66.5	83.9	88.4	102.1	120.8	140.1	146.1
VCLMB,FT/MN	2304.	2938.	3050.	2906.	2576.	2466.	2105.	1424.	387.	0.
GAMMA,DEG	90.0	55.4	37.0	25.6	17.6	16.0	11.7	6.7	1.6	0.0
IFUS,DEG	-0.79	-2.05	-3.82	-5.14	-5.61	-5.49	-4.11	-4.08	-6.05	-6.76

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0
VKTS,KT	51.4	67.4	86.3	91.4	107.3	130.8	162.7
VCLMB,FT/MN	-3277.	-3100.	-3276.	-3400.	-3948.	-5281.	-8389.
GAMMA,DEG	-39.0	-27.0	-22.0	-21.6	-21.3	-23.5	-30.6
IFUS,DEG	-0.92	-3.82	-7.25	-7.90	-10.12	-14.26	-22.26

POWER-LIMITED TURN CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	146.1
AY,G	0.7748	1.0275	1.3022	1.5392	1.6656	1.6853	1.7168	1.5888	1.1541	0.0000
NZ,G	1.2650	1.4338	1.6419	1.8355	1.9428	1.9597	1.9868	1.8773	1.5271	1.0000
RADIUS,FT	0.0	34.5	108.8	207.1	340.?	379.6	515.7	802.5	1503.6	0.0
RATE,D/S	0.00	56.11	35.56	28.02	22.74	21.66	18.75	14.46	9.00	0.00
PHI,DEG	37.77	45.78	52.48	56.99	59.03	59.32	59.79	57.84	49.16	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	146.1
AX,G	0.7745	0.7525	0.6171	0.4649	0.3262	0.2961	0.2145	0.1204	0.0275	0.0001
IFUS,DEG	-38.20	-37.48	-33.48	-28.40	-22.72	-21.23	-16.01	-10.83	-7.62	-6.76

HORIZONTAL DECELERATION CAPABILITY
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2605	-0.2534	-0.2708	-0.3111	-0.3751	-0.3945	-0.3732	-0.3852	-0.4293	-0.4609	-0.4983	-0.5414	-0.6013	-0.6687
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.05	9.79	8.57	8.19	7.92	7.73	7.80	7.93

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.9928	2.9487	2.8327	2.6959	2.5507	2.4730	2.3972	2.3246	2.2569	2.1923
PHI,DEG	69.18	69.22	68.87	68.02	66.74	65.96	65.13	64.26	63.35	62.38
PSI,DEG	27.04	19.98	9.61	4.23	2.53	2.02	1.68	1.52	1.52	1.60
RADIUS,FT	246.6	260.8	347.9	516.2	747.0	889.4	1051.3	1234.3	1440.3	1673.3
RATE,D/S	31.37	31.52	27.80	22.48	18.12	16.31	14.72	13.32	12.09	10.98
XF-WIND,LB	-15738.	-12466.	-7112.	-3943.	-3177.	-3023.	-3004.	-3132.	-3423.	-3817.
AX,G	-1.6360	-1.2959	-0.7393	-0.4099	-0.3302	-0.3142	-0.3123	-0.3256	-0.3558	-0.3968

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 9620. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.9470	2.8277	2.7015	2.6216	2.5514	2.4859	2.4280	2.3656
PHI,DEG	69.02	68.24	67.23	66.48	65.75	64.99	64.19	63.22
PSI,DEG	24.91	14.58	10.91	9.62	8.63	7.84	7.32	6.92
RADIUS,FT	380.4	528.6	744.3	881.6	1035.1	1207.7	1401.7	1627.9
RATE,D/S	25.42	21.95	18.19	16.45	14.95	13.61	12.42	11.29
XF-WIND,LB	-14489.	-10440.	-8928.	-8423.	-8130.	-7993.	-8085.	-8281.
AX,G	-1.5061	-1.0853	-0.9280	-0.8756	-0.8451	-0.8309	-0.8404	-0.8608

CONFIGURATION: LHX, 2xT800, 5 BLADE, DIA=F/O, FLAP OFFSET=3.5%, CT/S=.0874, 500 FPM, 95% MRP
ARMED RECON - (COMBAT, 4HF + 2S + 320) FALLOUT VIBRATION, NO CONTINGENCY WT
MAX ALTERNATE GROSS WEIGHT [MAGW] WITH LONGBOW AND EXT STORES
INPUT DATA FILE NAME: DUB4:[DAVIS.LHX.HL92]HL92.DAT;3 RUN TIME: 14:43:50 RUN DATE: 3-JUL-89

UNACCELERATED FLIGHT
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	146.0
TOTAL HPREQ	1945.3	1618.3	1279.7	1062.3	1005.5	1015.1	1097.9	1359.7	1846.0	2049.6
IFUS,DEG	-0.28	0.46	0.53	0.24	-0.45	-0.70	-1.51	-2.91	-4.66	-5.26

POWER-LIMITED RATE OF CLIMB CAPABILITY
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	146.0
VKTS,KT	3.5	25.0	44.5	63.5	82.4	87.2	101.4	120.5	140.0	146.0
VCLMB,FT/MN	352.	1518.	1967.	2091.	1998.	1951.	1691.	1127.	304.	0.
GAMMA,DEG	90.0	36.9	25.9	19.0	13.9	12.8	9.5	5.3	1.2	0.0
IFUS,DEG	-0.47	-0.79	-1.69	-2.22	-1.96	-1.70	-1.92	-3.11	-4.70	-5.26

RATE OF DESCENT CAPABILITY (POWER OFF)
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F

VHZKTS,KT	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0
VKTS,KT	52.6	67.3	85.6	90.5	105.8	127.5	151.8	166.1
VCLMB,FT/MN	-3457.	-3083.	-3078.	-3146.	-3495.	-4369.	-5947.	-7223.
GAMMA,DEG	-40.5	-26.9	-20.8	-20.1	-19.0	-19.8	-22.8	-25.4
IFUS,DEG	-0.43	-2.82	-5.80	-6.27	-7.90	-10.76	-14.90	-17.90

POWER-LIMITED TURN CAPABILITY
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	146.0
AY,G	0.2561	0.6072	0.8913	1.1149	1.2300	1.2477	1.2759	1.1603	0.7433	0.0000
NZ,G	1.0325	1.1699	1.3395	1.4977	1.5852	1.5990	1.6211	1.5318	1.2461	1.0000
RADIUS,FT	0.0	58.3	159.0	285.9	460.7	512.7	694.0	1098.9	2334.6	0.0
RATE,D/S	0.00	33.16	24.34	20.30	16.79	16.03	13.94	10.56	5.80	0.00
PHI,DEG	14.37	31.27	41.71	48.11	50.90	51.29	51.92	49.27	36.69	0.00

POWER-LIMITED HORIZONTAL ACCEL CAPABILITY
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	145.9
AX,G	0.2557	0.4096	0.3838	0.3219	0.2437	0.2257	0.1686	0.0940	0.0215	0.0001
IFUS,DEG	-14.78	-22.56	-22.24	-19.45	-15.33	-14.17	-11.39	-8.43	-5.93	-5.26

HORIZONTAL DECELERATION CAPABILITY
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	0.0	20.0	40.0	60.0	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
AX,G	-0.2764	-0.2652	-0.2753	-0.3042	-0.3547	-0.3704	-0.3426	-0.3389	-0.3660	-0.3883	-0.4156	-0.4484	-0.4942	-0.5462
IFUS,DEG	15.00	15.00	15.00	15.00	15.00	15.00	12.04	9.57	8.22	7.80	7.48	7.26	7.27	7.33

TRANSIENT TURN (CONSTANT ALTITUDE, POWER ON)
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	80.0	85.0	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4422	2.4060	2.3114	2.2018	2.0813	2.0178	1.9559	1.8968	1.8415	1.7888
PHI,DEG	63.90	64.09	63.75	62.72	61.04	60.04	58.97	57.84	56.65	55.37
PSI,DEG	25.91	19.19	9.24	4.08	2.41	1.92	1.59	1.43	1.42	1.49
RADIUS,FT	317.7	333.9	443.9	659.7	961.3	1149.1	1364.2	1609.6	1888.7	2208.4
RATE,D/S	24.35	24.62	21.79	17.59	14.08	12.62	11.34	10.21	9.22	8.32
XF-WIND,LB	-15746.	-12465.	-7112.	-3960.	-3176.	-3023.	-3004.	-3132.	-3423.	-3817.
AX,G	-1.3356	-1.0573	-0.6033	-0.3359	-0.2694	-0.2564	-0.2548	-0.2657	-0.2903	-0.3237

TRANSIENT TURN (CONSTANT ALTITUDE, POWER OFF)
GW = 11790. LB; DQB = 9.80 FT**2; ALT = 0. FT; TEMP = 59.0 DEG-F; POWER LEVEL: MRP

VHZKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
VKTS,KT	100.0	120.0	140.0	150.0	160.0	170.0	180.0	190.0
NZ,G	2.4045	2.3069	2.1990	2.1390	2.0817	2.0283	1.9811	1.9374
PHI,DEG	63.74	62.90	61.56	60.68	59.74	58.75	57.71	56.60
PSI,DEG	23.86	13.95	10.37	9.14	8.17	7.40	6.87	6.48
RADIUS,FT	489.5	677.8	960.2	1137.9	1340.7	1570.6	1831.0	2127.4
RATE,D/S	19.76	17.12	14.10	12.75	11.54	10.47	9.51	8.64
XF-WIND,LB	-14487.	-10438.	-8895.	-8423.	-8130.	-7993.	-8085.	-8306.
AX,G	-1.2287	-0.8853	-0.7545	-0.7144	-0.6896	-0.6780	-0.6857	-0.7045